AR TARGET SHEET

The following document was too large to scan as one unit, therefore, it has been broken down into sections.

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Hanford Emergency Management Plan

Rev. 2
As amended

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CONTENTS

CONTENTS (cont)

CONTENTS (cont)

CONTENTS (cont)

CONTENTS (cont)

APPENDICES

LIST OF FIGURES

LIST OF TABLES

ACRONYMS/ABBREVIATIONS

AIHA	American Industrial Hygienists Association
BED	Building Emergency Director
BHI	Bechtel Hanford, Inc.
BW	Building Warden
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CHG	CH2M Hill Hanford Group, Inc.
CPR	cardiopulmonary resuscitation
CSO	Cognizant Secretarial Officer
DOE	U.S. Department of Energy
DOE-HQ	U.S. Department of Energy, Headquarters
DOT	U.S. Department of Transportation
EAL	emergency action level
EAS	Emergency Alert System
Ecology	Washington State Department of Ecology
EDF	Emergency Decontamination Facility
EDO	Emergency Duty Officer
ENS	Emergency Notification System
EOC	Emergency Operations Center
EPA	U.S. Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
EPZ	emergency planning zone
ERAP	Emergency Readiness Assurance Plan
ERC	Environmental Restoration Contract
ERDF	Environmental Restoration Disposal Facility
ERO	emergency response organization
ERPG	Emergency Response Planning Guideline
FAA	Federal Aviation Administration
FBI	Federal Bureau of Investigation
FDA	Food and Drug Administration
FEMA	Federal Emergency Management Agency
FHI	Fluor Hanford, Inc.
FRERP	Federal Radiological Emergency Response Plan
HEHF	Hanford Environmental Health Foundation
HCC	health care center
IC	Incident Commander
ICP	Incident Command Post
JIC	Joint Information Center
LFA	Lead Federal Agency
MOU	memoranda of understanding
NFPA	National Fire Protection Association

ACRONYMS/ABBREVIATIONS (cont)

ONC	Occurrence Notification Center
ORP	U.S. Department of Energy, Office of River Protection
OSHA	Occupational Safety and Health Administration
PAG	Protective Action Guideline
PAR	protective action recommendation
PCB	Polychlorinated biphenyl
PHMC	Project Hanford Management Contract
PNNL	Pacific Northwest National Laboratory
POC	Patrol Operations Center
RAP	Radiological Assistance Program
RCRA	Resource Conservation and Recovery Act
RL	U.S. Department of Energy, Richland Operations Office
SARA	Superfund Amendment and Reauthorization Act of 1986
SCAPA	Subcommittee on Consequence Assessment and Protective Actions
SCBA	self-contained breathing apparatus
SES	Office of Security and Emergency Services
SMT	Site Management Team
SRG	Scenario Review Group
TEDE	total effective dose equivalent
TEEL	Temporary Emergency Exposure Limit
TEP	Transportation Emergency Preparedness
TSD	treatment, storage, and disposal
UDAC	Unified Dose Assessment Center
USCG	U.S. Coast Guard
WAC	Washington Administrative Code

1.0 INTRODUCTION

1.1 PURPOSE

The *Hanford Emergency Management Plan* for the U.S. Department of Energy (DOE), Richland Operations Office (RL) and Office of River Protection (ORP), incorporates into one document an overview of the emergency management program for the Hanford Site. The program has been developed in accordance with DOE Orders as well as Federal and state regulations to protect worker and public health and safety and the environment in the event of an emergency at or affecting the Hanford Site.

This plan provides a description of how the Hanford Site will implement the provisions of DOE O 151.1 and other applicable Orders in terms of overall policies and concept of operations. The plan should be used as the basis, along with DOE Orders, for the development of specific RL/ORP and site contractor implementing procedures.

Additionally, portions of this plan, together with Hanford Site location/activity-specific documentation established to meet contingency plan requirements, meet the Washington Administrative Code (WAC) 173-303 requirements for the Hanford Site contingency plan. Many documents comprise the Hanford Site contingency plan. Applicability of this plan to Hanford Site activities is described in the Hanford Facility Resource Conservation and Recovery Act (RCRA) Permit, Dangerous Waste Portion, General Condition II.A. General Condition II.A applies to Hanford Site activities at operating treatment, storage, and disposal (TSD) units, TSD units undergoing closure and/or post-closure activities, and to transportation incidents on the site in accordance with the applicability matrix delineated in Attachment 3 of the Hanford Facility RCRA Permit. For interim status TSD units and 90-day accumulation areas, these activities will be consistent with emergency preparedness policy and implementation techniques required by the Hanford Facility RCRA Permit, General Conditions II.A and II.B. Contingency plan requirements from WAC 173-303-350 met in this plan are identified in the crosswalk matrix in Appendix A.

This plan, together with each Polychlorinated biphenyl (PCB) temporary accumulation area location/activity-specific documentation, also meets the requirements for a Spill Prevention Countermeasures and Control (SPCC) Plan and the notifications required by 40 CFR 761.

1.2 SCOPE

Event response is governed by an emergency preparedness documentation hierarchy that is shown in Figure 1-1. This hierarchy generally follows an integrated contingency plan approach. In such an approach, one set of documentation responds to a number of requirements (e.g., environmental regulations and DOE Orders). The crosswalk contained in Appendix A illustrates which portions of this plan address the specified requirements.

This plan describes the overall emergency organization, authorities, and responsibilities for response to and mitigation of emergency events involving facilities and activities on the Hanford Site. These events include the full spectrum of operational emergencies, natural phenomena, transportation events, and safeguard and security emergencies. This plan also describes the authorities, responsibilities, and agreements for response to offsite and near-site facility emergencies that have the potential for detrimentally affecting the health of personnel and safety of operations at the Hanford Site.

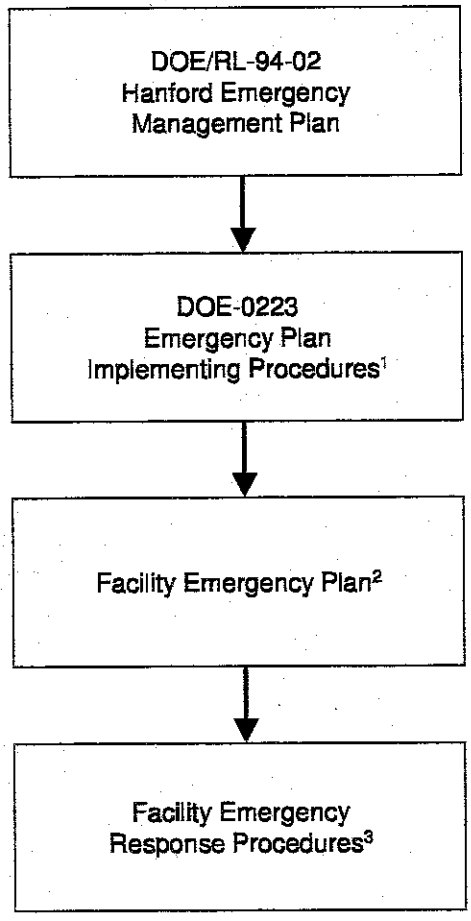
RL/ORP and each site contractor shall develop and maintain procedures or other documents necessary to implement the emergency management program described in this plan. Procedures shall contain detailed information and the specific instructions, including response actions, associated precautions and prerequisites, and identification of responsible individuals, needed to carry out the appropriate action during a drill, exercise, or actual emergency.

For the Hanford Site, these procedures shall include, but not be limited to, the following.

- RL/ORP site-wide emergency procedures used by RL/ORP and site contractors that delineate:
  - the operation of the Hanford Incident Command System and responsibilities of the Incident Command Organization;
  - the responsibilities for the Hanford Emergency Operations Center (EOC), which includes the Policy Team, Site Management Team (SMT), and the Joint Information Center (JIC);
  - recognition, categorization/classification, and notification of emergencies and other incidents;
  - protective action recommendations (PARs);
  - response to nonradiological hazardous substance spills or releases during transportation incidents occurring on the site not covered by TSD unit-specific contingency plans or building emergency plans;

    NOTE: The term hazardous substances is defined in WAC 173-303-040 as: "any liquid, solid, gas, or sludge, including any material, substance, product, commodity, or waste, regardless of quantity, that exhibits any of the physical, chemical or biological properties described in WAC 173-303-090 or 173-303-100." Whenever the term "hazardous substances" is used in this document to denote the WAC 173-303 definition, the term will be referred to as "WAC hazardous substance." Otherwise, a hazardous substance will mean those regulated by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

Figure 1-1. Emergency Preparedness Documentation Hierarchy.



[1] Some site contractors may implement DOE-0223 actions through contractor-specific emergency management documentation.

[2] Facility emergency plans can include building emergency plans, facility response plans, or facility emergency information boards.

[3] In some facilities, the facility emergency plan and emergency response procedures are integrated.

- response to PCB spills or releases in accordance with 40 CFR 761;
- termination, reentry, and recovery for DOE Order emergencies and events that meet RCRA contingency plan implementation criteria; and
- response to onsite and offsite shipments of RL/ORP-owned radiological and nonradiological hazardous materials.

- Site contractor emergency procedures that:
  - enable the implementation of the responsibilities of the site contractors;
  - supplement, as necessary, implementation of RL/ORP emergency procedures;
  - include facility and organizational plans and procedures for response to, and recovery and restoration from, specific emergency conditions, to include bomb threats, at Hanford Site facilities; and
  - include building emergency plans and/or procedures which are required for buildings, facilities, and structures defined as a nuclear or reactor facility, regulated by the Washington State Department of Ecology (Ecology) Dangerous Waste Regulations, or regulated by the U.S. Environmental Protection Agency (EPA) Toxic Substances Control Act.

In addition to the program for response to and mitigation of emergencies, this plan also provides direction on the activities necessary to ensure emergency preparedness on the Hanford Site such as training, drills, exercises, and assessments. The authority and responsibility for interfaces with offsite organizations responsible for protecting the public and the environment, including those agencies that may provide or request support in the event of an emergency, is also delineated.

The RL responsibility to provide, upon request, radiological advice and assistance to other Federal, tribal, state, or local governments under the Radiological Assistance Program (RAP) is defined in DOE/RL-92-49, *U.S. Department of Energy Radiological Assistance Program Response Plan Region 8* (DOE/RL 1992).

1.3 CONCEPT OF OPERATION

An integrated and comprehensive Hanford Site emergency management program has been developed to ensure that:

- the site can respond effectively and efficiently to emergencies so that appropriate response measures are taken to protect workers, the public, the environment, and the national security;

- emergencies are promptly recognized and classified, and parameters associated with the emergency are monitored to detect changed or degraded conditions;
- emergencies are reported and notifications are made; and
- reentry activities are properly and safely accomplished, and recovery and post-emergency activities commence properly.

1.3.1 Hanford Site Emergency Management Program Elements

There are five elements of the Hanford Site emergency management program. These elements are:

- emergency **planning** which includes identification of hazards and threats, hazard mitigation, development and preparation of emergency plans and procedures, and identification of personnel and resources needed for an effective response;
- emergency **preparedness** which includes acquisition and maintenance of resources, training, drills, and exercises;
- emergency **response** which includes the application of resources to mitigate consequences to workers, the public, the environment, and the national security, and the initiation of recovery from an emergency;
- **recovery** which includes planning for and taking actions following termination of the emergency to return the facility/operations to normal; and
- **readiness assurance** which includes assessments and documentation to ensure that stated emergency capabilities are sufficient to implement emergency plans.

1.3.2 Hanford Site Emergency Management Program Basis

The comprehensive Hanford Site emergency management program is based on and commensurate with the hazards and consequences associated with facilities and activities on the site (i.e., developed consistent with a graded approach), offsite facilities that may impact the site, and onsite and offsite RL/ORP transportation emergency preparedness (TEP) activities involving radiological and nonradiological hazardous materials.

1.3.2.1 Operational Emergency Base Program. Each site facility shall have an Operational Emergency Base Program that provides the framework for response to serious events involving health and safety, the environment, safeguards, and security. These events are not unique to DOE operations.

The Operational Emergency Base Program shall provide for compliance with applicable regulations and plans developed by other Federal agencies and DOE offices, and with those state and local planning and preparedness requirements that apply.

Additionally, the Operational Emergency Base Program shall provide for integrated planning to meet the response requirements identified in the hazards survey. Hazards surveys are discussed further in subsection 1.3.3.1.

1.3.2.2 Operational Emergency Hazardous Material Program. The Operational Emergency Hazardous Material Program adds to the Operational Emergency Base Program. Depending on the findings of the hazards survey, site facilities may be required to establish and maintain a quantitative hazards assessment. The hazards assessment will be used to define the provisions of the Operational Emergency Hazardous Material Program to ensure the program is commensurate with the hazards identified. Such hazard assessments are required if the hazard survey identifies hazardous materials in quantities exceeding the lower of the Threshold Quantities listed in 29 CFR 1910.119 or 40 CFR 68.130; Threshold Planning Quantities, listed in 40 CFR 355; or quantities listed in 10 CFR 30.72 for radionuclides. The results of this assessment provide the technical basis for establishing a graded approach that will meet the program requirements.

The extent of planning and preparedness directly corresponds to the type and scope of hazards present and the potential consequences of events. Hazards assessments prepared for Hanford Site hazardous facilities include identification of hazards and targets unique to a facility, analysis of potential events, and evaluation of potential event consequences. Hazards assessments are discussed further in subsection 1.3.3.2.

Using the accident scenarios and consequences identified in a facility hazards assessment, the observable methods of detecting or recognizing an emergency can be identified. These indicators, called emergency action levels (EALs), are used to determine the emergency class. The emergency class is used to trigger specified, preplanned responses and protective actions. Emergency classes and EALs are described further in the respective subsections of section 4.0. For each emergency class there shall be predetermined protective actions necessary to protect onsite personnel as well as recommended actions for the protection of offsite populations.

The Hanford Site ERO shall be formed, trained, and tested to ensure the recognition and classification of emergencies, and the implementation of protective actions. Recognition and classification of emergencies and protective action implementation is described further in subsequent sections of this plan.

1.3.2.3 Hanford Transportation Emergency Preparedness Program. The Hanford Transportation Emergency Preparedness Program provides the framework for response to onsite and offsite transportation incidents involving radiological and nonradiological hazardous material.

For transportation planning purposes, shipments transported on roadways north of the site's Wye Barricade are exempt from the U.S. Department of Transportation (DOT) regulations found in 49 CFR. Shipments transported south of the Wye Barricade are considered "in commerce" and shall be regulated under the DOT regulations in 49 CFR, unless public access

control is extended south of the Wye Barricade (but not beyond the site boundary) for special case shipments.

For transportation incidents that occur on the site, the Incident Command System is used to mitigate the situation. Upon notification of the event by the Patrol Operations Center (POC), the Hanford Fire Department shall assume incident command responsibilities. The Emergency Duty Officer (EDO) shall have the responsibility for event classification and activation of the Hanford ERO as appropriate.

For transportation incidents involving DOE-owned hazardous materials that occur off the site, the POC shall initially provide information to first responders on a 24-hour basis in accordance with DOT 49 CFR requirements. In addition, the POC will then connect the caller directly with the Transportation On-Call Representative and the EDO who will provide more detailed information regarding the shipment and follow on response assistance as appropriate.

Figure 1-3 outlines the response approach to a transportation emergency.

1.3.3 Hazards Survey and Hazards Assessment

Hazards surveys and hazards assessments are used for emergency planning purposes. DOE O 151.1 requires that emergency management efforts begin with the identification of hazards and that the scope and extent of emergency planning and preparedness be commensurate with the hazards. The hazards survey briefly describes the potential impacts of emergency events or conditions and summarizes the planning and preparedness requirements that apply. The hazards assessment includes the identification and characterization of hazardous materials (radiological and nonradiological) specific to a facility or activity, analyses of potential accidents or events, and evaluation of potential consequences.

1.3.3.1 Hazards Survey Process. A hazards survey (i.e., qualitative examination) shall be prepared to identify the conditions to be addressed by the comprehensive emergency management program. Much of the facility hazards survey should already have been done in the course of meeting other DOE, Federal, and state agency requirements.

The hazards survey shall:

- identify and describe each facility or activity;
- identify (e.g., in matrix or tabular form) the emergency conditions (e.g., fires, work place accidents, natural phenomena, etc.);
- describe the potential health, safety, or environmental impacts related to specific and surrounding facilities; and
- summarize the planning and preparedness requirements that apply.

Each hazards survey shall combine as many facilities as possible that are subject to the same types of hazards and shall be updated whenever operations warrant a change, but no less than every three years.

Additional information/guidance to assist in the preparation of hazards surveys is delineated in the applicable section of the DOE *Emergency Management Guide* (DOE 1997).

1.3.3.2 Hazards Assessment Process. The release or loss of control of hazardous materials (radiological and nonradiological) shall be quantitatively analyzed. If the results of the analysis indicate the potential for an Alert, Site Area Emergency, or General Emergency, the results of the analysis shall be used to determine the necessary personnel, resources, and equipment for the Hazardous Materials Operational Emergency Program. If the hazards assessment indicates that all events would be classified as less than an Alert, the minimum program requirements shall encompass the requirements for Hazardous Waste Operations and Emergency Response found in 29 CFR 1910.120 and the Base Program Operational Emergency requirements specified in this plan.

Each facility with significant quantities of hazardous materials (radiological and nonradiological) shall develop and maintain a quantitative hazards assessment and meet more detailed emergency planning requirements. Hazardous materials are any solid, liquid, or gaseous material that is toxic, flammable, radioactive, corrosive, chemically reactive or unstable upon prolonged storage in quantities that could pose a threat to life, property, or the environment.

While not every conceivable situation will be analyzed, the hazards assessments will provide the framework for response planning to virtually any declared emergency. Assumptions, methodology, models, and evaluation techniques used in the hazards assessment shall be documented.

The hazards assessment shall be reviewed at least annually and updated to delineate significant changes to the facility or hazardous material inventories, and be maintained in accordance with site contractor document control requirements.

In addition, the hazards assessment shall include a determination of the size of the emergency planning zone (EPZ). The EPZ is the geographic area surrounding the site/facility for which special planning and preparedness actions are taken or need to be taken to reduce or minimize the impact to onsite personnel and public health and safety in the event of a Hazardous Material Operational Emergency.

1.3.3.2.1 Hazards Assessment Development. There are six steps in the hazards assessment development process.

Step 1: Define and describe the facility and its operations. This is accomplished through review of safety analysis reports or other documented analyses prepared for the subject facility.

Step 2: Identify and screen the hazards (both radiological and nonradiological). Threshold values of radiological and nonradiological materials are reviewed to determine those materials that exceed established criteria. These lists of materials are obtained from documents such as safety analysis reports, safety assessments, facility hazards classification documentation, Superfund Amendment and Reauthorization Act of 1986 (SARA) Title III inventories, and inventories of dangerous or mixed waste.

Step 3: Characterize the hazards remaining after the screening process.

Step 4: Develop event scenarios.

Step 5: Estimate the consequences of events.

Step 6: Compare the consequences to the emergency classification criteria.

Additional information/guidance to assist in the development of hazards assessments is delineated in DOE-0223, *Emergency Plan Implementing Procedures*, and the applicable section of the DOE *Emergency Management Guide* (DOE 1997).

1.3.4 Hanford Site Emergency Response

This section provides an overview of how the Hanford Site responds to events. It covers the actions to be taken for an event by the event discoverer, the facility staff, and by agencies such as the Hanford Fire Department and/or Hanford Patrol.

Since the Hanford Site has a diverse array of facilities and processes, a graded approach is used to respond to an event depending upon the nature of a facility and/or the severity of the event. There are a number of events to which the site has to be ready to respond, including releases, spills, operational events, fires, natural phenomenon, and security events.

The discoverer of an event (e.g., fire, release, spill, transportation incident, etc.) initiates response to the event. For some events, specific response actions to mitigate the event by the discoverer and/or facility staff may be appropriate. In such cases, actions may include shutting down systems, isolating materials, or performing other facility specific response actions when appropriate. Facility procedures may also direct protective actions for personnel.

In other events, resources outside the facility may be required. In these cases, the general response approach is outlined in Figure 1-2 and requires the discoverer to call the 911 emergency number. Upon being contacted, the 911 emergency center assesses the situation and notifies the primary response agencies – the Hanford Fire Department and Hanford Patrol – that responds and ensures implementation of the Hanford Incident Command System.

The Hanford Incident Command System provides for coordination of all responders including the facility emergency response organization (i.e., Building Emergency Director, Building Warden, etc.). The senior Hanford Fire Department official becomes the Incident Commander (IC), unless the event is determined to primarily be a security event, in which case the Hanford Fire Department and Hanford Patrol will operate under a unified command system with Hanford Patrol making all decisions pertaining to security.

When the Hanford Incident Command System is established, a coordinated effort to plan and implement additional mitigative activities commences. In addition, the consequences of the event are further analyzed and additional protective actions are implemented through the use of emergency signals, crash alarm telephone systems, and barricades if determined necessary.

Whenever there is an event at Hanford, certain notifications are required depending upon the type and severity of the event. These notifications would include management notifications, activation of emergency response personnel, and offsite agency notifications as necessary. These notifications are performed primarily by the Occurrence Notification Center (ONC) and site contractor environmental single points-of-contact. For events that do not meet emergency criteria but could cause public concern or media interest, local and state emergency management agencies are notified as well as state regulatory agencies for information purposes. If the event exceeds regulatory criteria, the appropriate regulatory agencies are notified immediately.

Concurrent with the immediate notifications to the appropriate regulatory agencies, if the event is severe enough to be classified as an Alert, Site Area Emergency, or General Emergency, state and county agencies are notified within 15 minutes of declaration of the emergency. This notification allows the agencies to implement protective actions for their populations if necessary, and to begin mobilization of resources. In addition, preplanned protective actions are implemented for site personnel and the Hanford EOC is activated to support the Incident Command Organization and coordinate interface with offsite agencies.

Upon mitigation of the event to the point the situation is stabilized and ensuring that actions have been taken to prevent reoccurrence, the event is terminated and the recovery effort begins. Recovery is the process of planning for and implementing actions to return the facility/process to pre-event conditions. Actions could include activities such as equipment repair, decontamination, proper storage of waste generated, and providing any follow-up reporting to appropriate regulatory agencies.

1.4 SITE DESCRIPTION

1.4.1 Overview Site Description

The 1,517 square kilometer (586 square mile) Hanford Site was originally acquired by the Federal government in 1943 for the construction and operation of facilities to produce plutonium that was used to help end the Second World War. In 1989, the Hanford Site mission changed from one of national defense production to waste management, environmental restoration, and technology development.

Figure 1-2. Emergency Response.

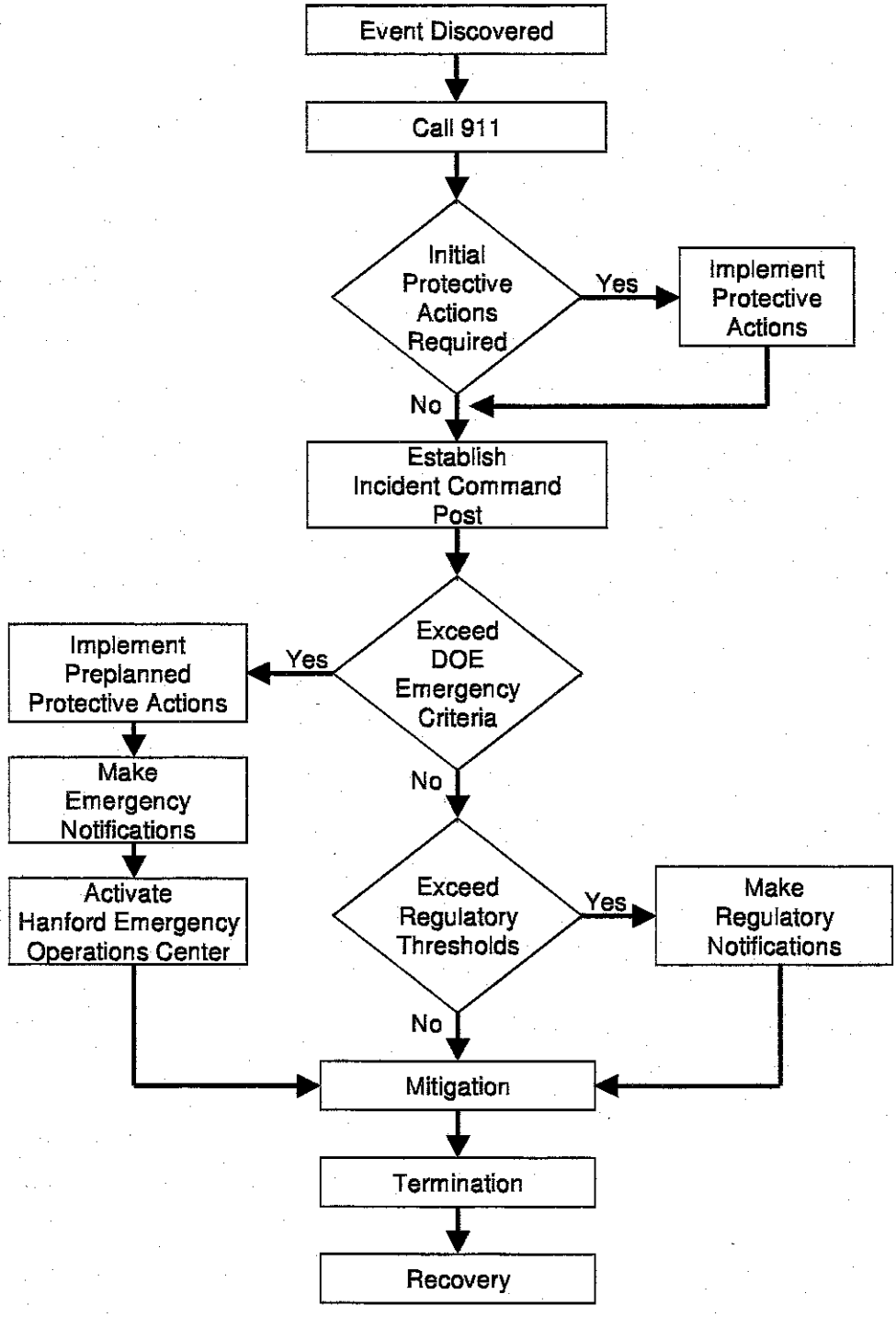
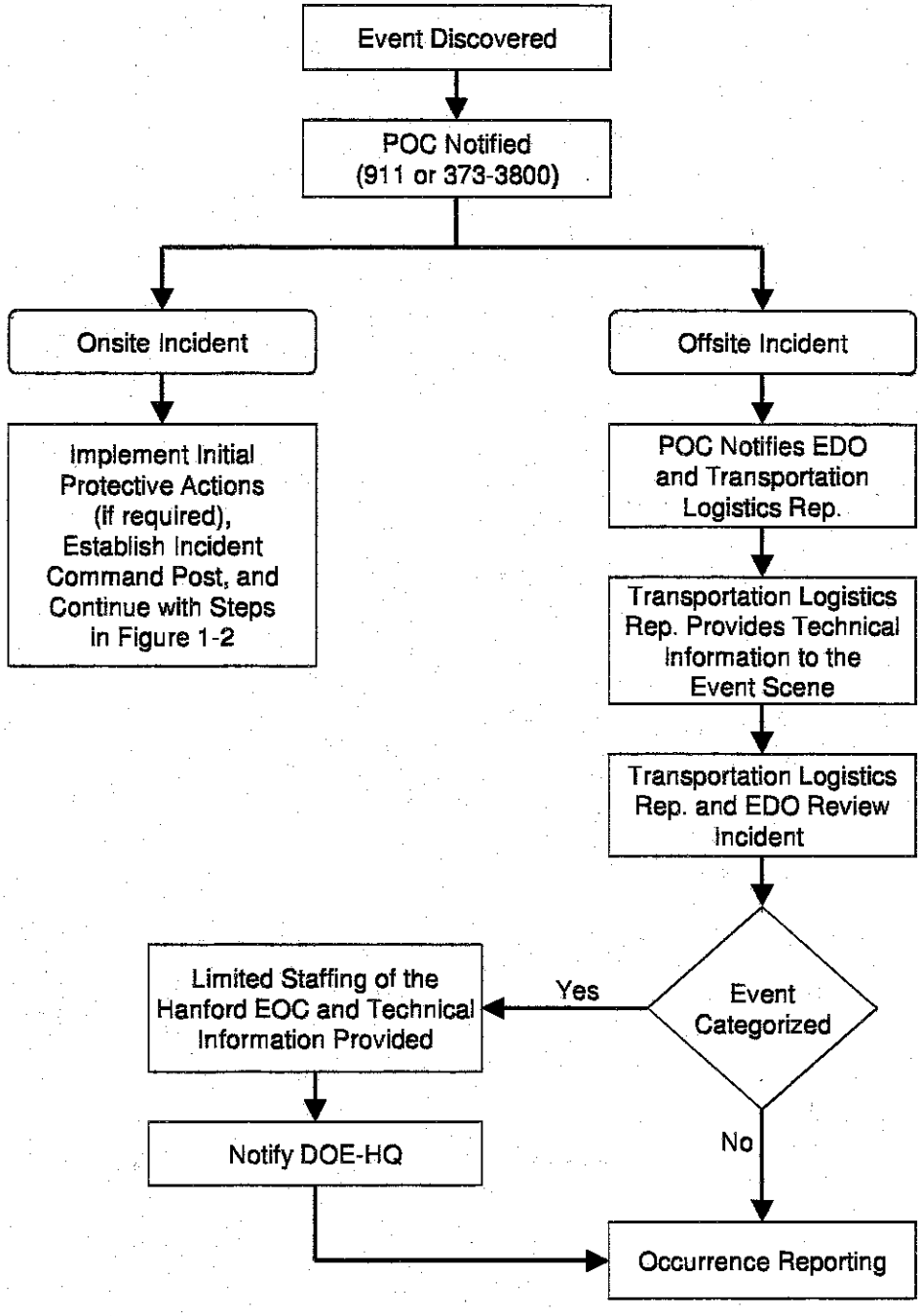


Figure 1-3. Transportation Emergency Response.



Hanford Site contractors operate/manage facilities and provide site services for RL/ORP. The site contains several types of complex facilities, including retired nuclear reactors, retired and active chemical processing facilities, nuclear waste storage tanks, and research laboratories. There are approximately 1,500 buildings (occupied and unoccupied) on the site with an infrastructure of utilities and transportation necessary to support an operation employing approximately 10,000 workers.

The Hanford Site is also defined as a single *Resource Conservation and Recovery Act of 1976* facility, identified by the EPA/State Identification Number WA7890008967, that consists of over 60 TSD units. This area consists of the contiguous portion of the Hanford Site that contains these TSD units and, for the purposes of the RCRA, is owned and operated by the U.S. Department of Energy (excluding lands north and east of the Columbia River, river islands, lands owned or used by the Bonneville Power Administration, lands leased to Energy Northwest, and lands owned by or leased to the state of Washington).

1.4.1.1 Hanford Site Facilities/Activities. The major facilities and activities on the Hanford Site, that are DOE-owned and contractor-operated, are grouped together in the following major areas.

- 100 Areas: These areas are located along the Columbia River in the northern portion of the Hanford Site and contain nine former plutonium production reactors. The facilities in the 100 Areas are currently being prepared for permanent disposal.

- 200 East and 200 West Areas: These areas lie on a plateau near the center of the site some 40 kilometers (25 miles) north of Richland, Washington, and are dedicated to waste management activities, laboratory support, waste characterization, and environmental restoration.

- 300 Area: This area is approximately 8 kilometers (5 miles) north of Richland, Washington. Major activities include nuclear research and development.

- 400 Area: This area, approximately 15 kilometers (9 miles) north of Richland, Washington, contains the Fast Flux Test Facility (in transition to shutdown) and related support facilities formerly involved in the liquid metal reactor program.

- 600 Area: This area includes all of the Hanford Site not occupied by the other listed areas. Land uses include the 310-square-kilometer (120-square-mile) Fitzner/Eberhardt Arid Lands Ecology Reserve, the Environmental Restoration Disposal Facility (ERDF), and a U.S. Fish and Wildlife Refuge.

The site also contains several major and minor operations that are not owned and/or operated by RL/ORP and its site contractors. The major operations include the following.

- A publicly owned commercial nuclear power plant, Columbia Generating Station, operated by Energy Northwest on land leased from the Federal government on the eastern side of the site, near the Columbia River and about 15 kilometers (9 miles) north of Richland. This facility is operated in accordance with U.S. Nuclear Regulatory Commission licensing requirements and rules.

- A low-level radioactive waste disposal site located near the 200 Areas, on land that the state of Washington has leased from the Federal government. This facility is commercially operated by the US Ecology Company in accordance with state and Federal licenses and permits.

- A commercial incubator project, administered by the Port of Benton, which will lease up to 22 excess site buildings adjacent to the 400 Area for private-sector businesses.

- An observatory to monitor the earth's gravitational waves, Laser Interferometer Gravitational Observatory (LIGO), located in the northern part of the 600 Area.

RL/ORP and its site contractors also lease site-related office and warehouse facilities off the Hanford Site in the city of Richland. These facilities can not generate an Alert or higher emergency.

1.4.1.2 Hazards. Activities at the Hanford Site involve both radiological and nonradiological hazardous materials. Major hazardous materials emergencies are associated with the potential for fire, explosion, or dispersion of radiological or toxic chemicals.

A significant hazard requiring emergency planning on the Hanford Site stems from the presence of large quantities of radioactive materials from the various separations, waste storage, research, and previous production and manufacturing materials. These materials, although contained, could affect worker and public health and the environment in the event of dispersion during a major accident.

In addition, large quantities of various nonradiological hazardous materials are stored and used in chemical processing and other operations at the Hanford Site. Hazardous materials are routinely transported by truck and rail to and around the site and are stored at various onsite locations. State Route 240, a main public highway that runs through the site, is used for transporting a wide range of chemicals, including agricultural chemicals to farms and orchards in the surrounding area.

Typically, hazardous materials of concern for emergency planning purposes include petrochemicals, explosives, toxic chemicals and chemical products, and fuel gases (e.g., propane and butane). Hazardous chemicals of particular concern are those with the potential for forming large, toxic airborne clouds that may travel long distances before dispersing. These chemicals include ammonia, chlorine, hydrogen fluoride, sodium, fuming acids, and others.

For purposes of emergency planning, facilities on the Hanford Site are described as hazardous, low-hazards, or administrative.

1.4.1.3 Contractors. The major Hanford Site contractors, responsible in their respective capacities for the operation or management of the Federal facilities, include the following.

- Fluor Hanford, Inc. (FHI). Under contract with RL, FHI manages the Project Hanford Management Contract (PHMC) that integrates a full range of work to support cleanup of the site. In addition, FHI has contracts with other companies to manage projects and perform site-wide services such as security and fire protection services. References to FHI in this plan are all inclusive of work performed by FHI and its subcontractors.

- Pacific Northwest National Laboratory (PNNL). Under contract with RL, PNNL operates DOE's Hanford Site research and development laboratory and performs environmental monitoring.

- Bechtel Hanford, Inc. (BHI). Under contract with RL, BHI manages the Environmental Restoration Contract (ERC) directing the cleanup of the Hanford Site which encompasses all phases of the investigation, decontamination and decommissioning, and restoration and remediation of Hanford's inactive radioactive and/or hazardous waste disposal facilities or release sites.

- Hanford Environmental Health Foundation (HEHF). Under contract with RL, HEHF provides occupational health services to Hanford Site employees.

- CH2M Hill Hanford Group, Inc. (CH2M Hill). Under contract with ORP, CH2M Hill manages the River Protection Project for the storage, treatment, immobilization, and disposal or preparation of disposal of the Hanford radioactive tank waste.

1.4.2 Physical Attributes of the Hanford Site

The Hanford Site is located in the southeastern area of the state of Washington. The site covers approximately 1,517 square kilometers (586 square miles) located in Benton, Franklin, and Grant Counties just northwest of the cities of Richland, Kennewick, and Pasco (Tri-Cities).

For emergency preparedness purposes, the Hanford Site is defined as the near (south and west) bank of the Columbia River from the intersection of the existing western most site boundary and the Columbia River, following the Columbia River to the south boundary of the 300 Area, and proceeding west and north along the existing site boundary (see Figure 1-4). Based on this definition, portions of the existing Hanford Site that fall within Grant and Franklin Counties are considered outside of the site boundary.

The Columbia River runs across the northern half of the site then flows south across the eastern side of the site. The Yakima River borders part of the southern boundary of the site and joins the Columbia River below the city of Richland. A worst-case flood of the Columbia River or catastrophic breach of Grand Coulee Dam could impact parts of the 100 and 300 Areas but the central portion of the site would remain unaffected.

The Hanford Site and surrounding area has a semiarid climate with a sparse covering of vegetation. The terrain of the central and eastern parts of the site is relatively flat. Rattlesnake Mountain, the Yakima Ridge, and the Umtanum Ridge continue onto the site from the west and form the southwestern and western boundary. Two small ridges, Gable Butte and Gable Mountain, rise above the plateau on the central part of the site. It is an area of low seismicity in which moderate-level earthquakes can occur.

The area has moderate winters and hot summers. Severe thunderstorms are rare, although the site is vulnerable to lightning strikes causing wildland fires. Formation of a severe tornado is highly unlikely.

Primary land uses of the surrounding areas are irrigated and nonirrigated farming, residential living, and state- and Federal-controlled lands.

Because of the size of the site, there may be differences in the specific physical attributes in the vicinity of each hazardous facility. Detailed discussions and analysis of the local geography, geology, seismology, meteorology, and hydrology in the area of each hazardous facility are contained in safety analysis reports.

1.4.2.1 Population. The permanent population within the 50-mile (80-kilometer) site ingestion exposure EPZ, which is centered on Energy Northwest's Columbia Generating Station, is approximately 270,000 (Figure 1-5). The maximum transient population within the ingestion EPZ, including Hanford Site workers, offsite workers, and recreationists, is approximately 17,000.

The plume EPZ populations for Hanford Site EPZs are as follows.

- 100 Area: A small portion of a sparsely populated area of southern Grant County consisting of a permanent population of approximately 150 residents, a transient population of seasonal employees, and no special populations.

- 200 Areas: A small portion of a sparsely populated area of northwestern Benton County consisting of a permanent population of less than 50 residents and no transient or special populations. Also, a small portion of northwestern Franklin County that is leased to the Washington State Department of Game consisting of no permanent, transient, or special populations.

- 300 Area: A portion of western Franklin County consisting of a permanent population of approximately 750 residents, a transient population of seasonal employees, and no special populations. Also, a portion of the northern section of the city of Richland consisting of a permanent population of approximately 1,350 residents, a transient population of seasonal employees, and special populations consisting of four schools and three pre-schools.

- 400 Area: A small portion of the Columbia River at the near bank of the site boundary. There are no permanent or special populations.

2.0 EMERGENCY RESPONSE ORGANIZATION (INTERNAL)

The mission of the Hanford Site ERO is to ensure that, in the event of an emergency, actions will be taken to prevent or minimize impacts to workers, the public, site, facilities, and the environment. The Hanford Site ERO shall be structured and staffed with adequate, trained personnel, including designated alternates, to enable the most timely and effective response possible, while meeting the requirements as set forth in DOE O 151.1 and other applicable Federal and state regulations. Hanford facilities and response organizations such as the Hanford Fire Department are governed by the standards and regulations of the National Fire Protection Association (NFPA) and Code of Federal Regulations, as well as the Washington Administrative Code and Revised Code of Washington for emergency response, training, and on-scene emergency management. Responsibilities and tasks shall be assigned to individuals identified by name, title, or position.

2.1 U.S. DEPARTMENT OF ENERGY, RICHLAND OPERATIONS OFFICE/ OFFICE OF RIVER PROTECTION AND HANFORD SITE CONTRACTOR ROLES AND RESPONSIBILITIES

The Hanford Site ERO has been developed to allow RL/ORP to maintain the option to assume overall management, direction, and control of site emergencies while the site contractors continue their management and operational roles. Contractor and RL/ORP roles and responsibilities are delineated below.

2.1.1 Hanford Site Contractors

Hanford Site contractors with responsibilities for facility operations/activities or for providing site services shall coordinate with one another and participate in the development and maintenance of a comprehensive Hanford Site emergency management program that meets the mission of the Hanford Site ERO. Such programs shall contribute to DOE's comprehensive Emergency Management System by promoting effective and efficient integration of applicable requirements, including those promulgated by other agencies.

2.1.1.1 Event Contractor. The site contractor that maintains responsibility for the facility or activity with the emergency is designated as the event contractor. The event contractor responsibilities include:

- prompt and accurate categorizing of occurrences in accordance with this plan and DOE Order 232.1A (DOE 1997);
- initially classifying the emergency, if warranted;
- assisting, as necessary, in mitigating the emergency situation;

- initiating actions to protect workers within their geographic area of responsibility;
- contacting the POC and providing initial emergency information;
- requesting support from nonevent site contractors as necessary;
- establishing an initial Incident Command Post (ICP) and, as applicable, assigning other Incident Command Organization functions as delineated in Table 2-1, and other supporting entities such as radiological control technicians and industrial hygienists as available;
- arranging for employer notification (if not an event contractor employee), decontamination, and transport of a contaminated corpse;
- providing personnel to staff the Hanford EOC to include senior management staff and technical representatives;
- providing event status information to the Hanford EOC;
- ensuring proper cleanup, transportation, and storage of hazardous materials generated as a result of the event; and
- providing funding for performance of emergency response and recovery duties and replacement of supplies used by other contractors for event response.

Other site contractors shall provide support to the event contractor for actions related to the services they provide on the site, such as notifications, fire, security, or medical services.

2.1.1.2 Fluor Hanford, Inc. In addition to event contractor responsibilities for the Hanford Site facilities it operates, FHI emergency responsibilities include:

- fire suppression, emergency rescue, emergency medical, hazardous materials response, fire protection services, and incident response provided by the Hanford Fire Department;
- site security, access control, emergency service call answering and dispatching, and transportation emergency response contact provided through the Hanford Patrol;
- emergency communications including onsite and offsite notifications provided by the ONC;
- staffing of a 24-hour Emergency Duty Officer (EDO) position;
- management and staffing of the Hanford EOC;
- onsite radiation monitoring;

- environmental radiation sampling and monitoring;
- laboratory services;
- transportation;
- services in support of reentry and recovery operations, such as decontamination, engineering, equipment maintenance, utilities, procurement, and waste disposal;
- radio, telecommunications, computer, and audio/visual services; and
- managing site-wide radiological tasks which includes plume assessment and tracking; large group personnel survey, sort, and decontamination; survey of individuals evacuated from the Columbia River at the Vernita bridge and White Bluffs; and radiological control support (e.g., radiological control technicians, supervisory personnel, exposure evaluators as agreed upon by PNNL) during medical care of radiation accident patients at the local hospitals.

2.1.1.3 Pacific Northwest National Laboratory. In addition to event contractor responsibilities for the Hanford Site facilities it operates, PNNL emergency responsibilities include:

- weather information from the Hanford Site meteorology station;
- health physics technical support;
- control of nonmedical radiological operations of the Emergency Decontamination Facility (EDF);
- evaluation of radiological doses to personnel in the event of a criticality emergency; and
- senior management and technical staff support to the Hanford EOC.

2.1.1.4 Bechtel Hanford, Inc. In addition to event contractor responsibilities for the Hanford Site facilities it manages, BHI emergency responsibilities include:

- senior management and technical staff support to the Hanford EOC; and
- radiological control technician support.

2.1.1.5 Hanford Environmental Health Foundation. HEHF has no event contractor responsibilities as delineated in subsection 2.1.1.1. However, emergency services provided by HEHF include:

- minor emergency medical care and consultation;
- medical support for chemical and radiological contaminated patients;
- medical staffing and operation of the EDF;

- hostage negotiation and critical stress debriefing support;
- coordination with and support to community medical services;
- senior management and technical staff support to the Hanford EOC; and
- provide support to the Hanford Fire Department in the event of a large-scale mass casualty event on the Hanford Site as requested.

2.1.1.6 CH2M Hill Hanford Group, Inc. In addition to event contractor responsibilities for the Hanford Site facilities it manages, CHG emergency responsibilities include:

- senior management and technical staff support to the Hanford EOC;
- radiological control technician support; and
- health technician support.

2.1.2 U.S. Department of Energy, Richland Operations Office/Office of River Protection

RL/ORP shall have a trained emergency response staff and shall provide facilities/activities under their cognizance with:

- direction to implement emergency management policy and requirements;
- direction in emergency planning and preparedness activities;
- support and assistance during emergencies; and
- support and assistance in resolving issues in site/facility/activity emergency management programs, as well as assessments of site/facility/activity emergency management programs.

2.1.2.1 RL/ORP Manager. The RL/ORP Manager (or designee) is the senior official who serves as the RL/ORP Emergency Manager with decision-making responsibilities and has the ultimate responsibility and authority for Hanford Site emergency response activities to ensure that effective management is provided for response to emergencies. If the event involves an ORP facility, the ORP Manager (or designee) will assume the responsibility. The RL Manager (or designee) will assume the responsibility in all other events. The RL/ORP Manager is responsible for overseeing the performance of onsite activities necessary to place the site in a safe condition and to minimize or terminate uncontrolled releases of hazardous materials. The RL/ORP Manager is also responsible for interfaces with offsite agencies and the public.

The RL/ORP Manager shall be supported by personnel with communications, technical, and liaison and public affairs expertise and shall ensure fulfillment of his or her responsibilities through direction of the Policy Team and RL/ORP representatives assigned to offsite emergency centers. The responsibilities and staffing of the Policy Team are described in subsection 2.2.2.1.1.

2.1.2.2 RL/ORP Senior Management. As designated by the RL/ORP Manager, senior management personnel or their designees shall fill ERO positions that include:

- members of the Policy Team;
- representatives to the Site Management Team;
- representatives to state and county EOCs;
- a spokesperson in the JIC;
- liaisons to DOE emergency response assets; and
- a representative to DOE Headquarters (HQ), as requested.

2.1.2.3 DOE Facility Representative. The DOE Facility Representative serves in an oversight and liaison capacity at the ICP during declared emergencies. The primary function of the DOE Facility Representative is to observe ICP activities and, if required, report problems about facility conditions, event status, or mitigative actions to the Safety Oversight Director in the Hanford EOC.

2.1.2.4 RL Office of Chief Counsel. The RL Office of Chief Counsel is responsible for advising the RL/ORP Emergency Manager regarding legal matters associated with the emergency, using required legal resources, and administering the contractual affairs and the legal agreements required by the emergency.

2.1.2.5 RL Office of Financial Services. The RL Office of Financial Services is responsible for:

- reviewing the current budget and reallocating available funds, if required;
- reconstructing financial status as of the date of an emergency;
- administering the emergency account and payroll activities;
- managing matters related to the payment of claims under nuclear liability insurance coverage;
- arranging payment for, or otherwise resolving, expenses incurred by DOE activities associated with implementing the emergency planning, preparedness, and response program; and
- arranging for emergency travel and providing subsistence to personnel from the RL/ORP in responding to emergency assistance.

2.1.2.6 RL Office of Procurement Services. The RL Office of Procurement Services is responsible for procuring required supplies and services.

2.1.2.7 RL Office of Site Services. The RL Office of Site Services is responsible for:

- reallocating office space, if required;
- coordinating communications to include interfacing with the U.S. West Telephone Company to implement the emergency communications plan; and
- ensuring that vital records are available and accessible.

2.1.2.8 RL Office of Human Resources Management Services. The RL Office of Human Resources Management Services is responsible for supplying additional manpower required during the emergency.

2.1.2.9 RL Engineering Support Division. The RL Engineering Support Division is responsible for:

- coordinating power distribution in the event of a power failure;
- coordinating the combined efforts of the nuclear, mechanical, electrical, and civil engineers to provide technical design information for special tools, equipment, shielding, storage facilities, and other devices that may be essential during the emergency;
- assessing the extent of structural damage to DOE facilities; and
- providing liaison with onsite and offsite architectural, engineering, and construction contractors that may be called for assistance during the emergency.

2.2 EMERGENCY RESPONSE ORGANIZATION STRUCTURE

Emergency response on the Hanford Site is modeled after the NFPA Incident Command System. As such, the Hanford Incident Command System is an integrated emergency management system with clearly defined responsibilities and communication pathways that allows predesignated and trained individuals to jointly determine and implement incident mitigation strategies.

The Hanford Site ERO has two distinct components – the Incident Command Organization and the DOE Hanford EOC – each with emergency direction and control responsibilities.

The Incident Command Organization consists of the Facility/Building Emergency Response Organization with responsibility for implementing emergency response activities at the event facility, and site contractor emergency response personnel (i.e., Hanford Fire Department, Hanford Patrol) with the responsibility for on-scene mitigation.

The Incident Command Organization is staffed by pre-appointed and trained individuals as delineated in Table 2-1. Personnel working in support of the Incident Command Organization delineated in Table 2-1 must complete initial, annual, and ongoing training on their respective roles, responsibilities, and authorities within the Incident Command Organization. Drills and exercises are used to provide a format for Incident Command Organization responders to demonstrate their proficiency.

Contractor personnel shall provide a BED or BW for the purpose of supporting the Incident Command Organization as soon as possible. In the event of full implementation of the Incident Command Organization, additional facility personnel shall be available to support required functions.

2.2.1.1 Facility/Building Emergency Response Organization. Hanford Site facilities are divided into one of three types – administrative, low-hazards, and hazardous – depending on the hazards associated with the facility. Personnel and resources at the facility level comprise initial response capability for an emergency. Facilities shall direct appropriate emergency response actions, as delineated in the respective sections below, within the area under their control and at the scene of the emergency, including effective coordination with the IC and the Hanford EOC. Initial direction and control of emergency response at the facility prior to establishment of an ICP is the responsibility of the Facility/Building Emergency Response Organization.

A list of all BEDs and BWs assigned to low-hazards and hazardous facilities shall be located in the ONC in accordance with the Hanford Facility RCRA Permit (Dangerous Waste Portion) General Condition II.A.4. The list shall include telephone numbers (home and work) to ensure that these individuals can be reached 24 hours per day.

2.2.1.1.1 Administrative Facilities. Administrative facilities are defined as onsite office buildings or general-purpose facilities. The governing requirement for such facilities is 29 CFR 1910.38, which means that facilities where personnel are evacuated from the danger area when an emergency occurs, and are not permitted to assist in handling the emergency, are exempt from 29 CFR 1910.120(q) requirements.

The building management for administrative facilities shall assign BWs or BEDs (primary and alternates) who shall manage and control all aspects of the initial facility response and shall direct an emergency organization made up of individuals within the facility who will assist in the protection of personnel, the environment, and property. Personnel may take emergency actions to report an emergency, initiate protective actions including personnel accountability, and control of personnel while implementing protective actions. Typically, three emergency positions are identified for these response actions: the BW/BED, Staging Area Manager, and Personnel Accountability Aides (or other contractor-designated names). These positions may also be present in low-hazards and hazardous facilities but only for emergency actions as required in 29 CFR 1910.38 and not for 29 CFR 1910.120. The BW/BED is responsible for emergency response at the event scene until arrival of the IC.

In addition, the building management, or designee, shall be responsible for:

- assigning and ensuring the training of the BW/BED, personnel accountability aides, and staging area managers (or other contractor-designated names); and
- maintaining the facility emergency response information boards/building emergency procedures.

Specific responsibilities of the BW/BED shall include, as applicable:

(a) activating internal facility alarms or communications systems, where applicable, to notify building occupants of protective actions to be taken;

(b) ensuring that a 911 telephone call is made when emergency assistance is required;

(c) assisting the IC, as necessary, in mitigating emergencies within the assigned building; and

(d) ensuring that building occupants take appropriate protective actions in response to events occurring in other onsite geographic areas or adjacent facilities.

2.2.1.1.2 Low-hazards Facilities. Low-hazards facilities are defined as facilities that cannot generate an Alert, Site Area Emergency, or General Emergency but contain hazards not found in administrative facilities. These facilities are typically subject to requirements driving preparation of an environmental, safety, and health related emergency preparedness plan/procedure, which include, but are not limited to, RCRA, CERCLA, the Toxic Substances Control Act, and the Occupational Safety and Health Administration (OSHA).

The building management for low-hazards facilities shall assign BWs or BEDs (primary and alternates) who shall manage and control all aspects of the initial facility response and direct a Facility/Building Emergency Response Organization made up of individuals within the facility who will assist in the protection of personnel, the environment, and property. The BW/BED is responsible for emergency response at the event scene until arrival of the IC.

In addition, the building management, or designee, shall be responsible for:

- assigning and ensuring the training of the Facility/Building Emergency Response Organization as necessary to support the Hanford Fire Department as the RL/ORP-designated hazardous materials emergency response agency;
- maintaining building emergency plans/procedures or facility-specific emergency response procedures, as applicable, in accordance with subsection 14.3.1;
- ensuring that facility personnel are aware of hazards; and
- ensuring that facility personnel are trained to respond to emergencies.

Specific responsibilities of the BW/BED shall include, as applicable:

(a) determining when an event has occurred or a condition exists that requires response in accordance with applicable state and Federal regulations;

(b) activating internal facility alarms or communications systems, where applicable, to notify building occupants of protective actions to be taken;

(c) ensuring that a 911 telephone call is made when emergency assistance is required;

(d) reporting events or conditions in accordance with applicable state and Federal regulations;

(e) establishing an initial ICP and assigning other Incident Command Organization functions in accordance with established procedures to provide effective control at the event scene;

(f) assisting the IC, as necessary, in the mitigation of emergencies within the assigned building by:

- identifying the character, exact source, amount, and areal extent of any released material;
- assessing possible hazards to human health and the environment that may result from the release, fire, or explosion;
- taking reasonable measures (e.g., stopping processes/operations, collecting/containing released waste, removing/isolating containers) necessary to ensure that fires, explosions and releases do not occur, recur, or spread to other dangerous waste;
- monitoring for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment, as appropriate; and

(g) ensuring that building occupants take appropriate protective actions in response events occurring in other onsite geographic areas or adjacent facilities.

The duties of the Facility/Building Emergency Response Organization may include, but will not be limited to:

- assisting in the alerting of employees of an emergency situation;
- assisting in building evacuations and building sweeps; and

Permit requirement: Subsection 2.2.1.1.2(a), Class 1 Modification 9/30/99
Permit requirement: Subsection 2.2.1.1.2(d), Class 1 Modification 9/30/99
Permit requirement: Subsection 2.2.1.1.2(f), Class 1 Modification 9/30/99

- providing assistance to the Hanford Fire Department and/or Hanford Patrol to include meeting and directing responders to the event scene, providing safe routes of travel, and providing immediate and constant interface, coordination, and information as the emergency situation requires.

Emergency training requirements for the Facility/Building Emergency Response Organization are delineated in subsection 12.2.2.1.2.

2.2.1.1.3 Hazardous Facilities. Hazardous facilities are defined as facilities capable of generating an Alert, Site Area, or General Emergency as defined by DOE O 151.1. Facilities in this group include reactor or nuclear facilities, or nonnuclear hazard facilities. TSD units containing quantities of wastes or materials capable of generating an Alert or higher emergency will also be categorized as a hazardous facility.

The building management for each hazardous facility shall establish and maintain a Facility/Building Emergency Response Organization with overall responsibility for the initial and ongoing response to and mitigation of an emergency. BEDs (primary and alternates) shall be assigned to manage and control all aspects of the facility response and to direct the Facility/Building Emergency Response Organization at the event scene until arrival of the IC. Initiation of emergency lifesaving measures or support of protective actions for facilities which require self-contained breathing apparatus (SCBA) must not rely entirely on the Hanford Fire Department to provide such equipment on emergency response vehicles. The minimum assumption used for emergency planning for the Hanford Fire Department arrival shall be 10 minutes plus travel time to destination. A BED (primary or alternate) must be present onsite and within reasonable proximity to the facility (as defined by contractor policy) if work is being performed which could generate an Alert or higher emergency classification. On-call BEDs, where designated, may be used for facilities where hazardous materials is in storage and stable, and the work being performed is that of surveillance.

The organization, size, and emergency response duties assigned to the Facility/Building Emergency Response Organization shall be based on a graded approach and upon hazards at the facility and the level necessary to support the Hanford Fire Department as the RL/ORP-designated hazardous materials emergency response agency. In addition, the positions and responsibilities of the Facility/Building Emergency Response Organization shall be documented in specific building emergency plans and/or procedures. The content, distribution and organizational approval of the building emergency plan and/or procedures shall be determined by the respective contractor emergency preparedness organization.

NOTE: Building emergency plans are not required for unoccupied hazardous facilities. However, BEDs shall be identified and trained to implement initial emergency response procedures.

The building management, or designee, shall be responsible for:

- assigning and ensuring the training of the Facility/Building Emergency Response Organization as necessary to support the Hanford Fire Department as the RL/ORP-designated hazardous materials emergency response agency;
- maintaining, reviewing, and revising the building emergency plan and applicable facility-specific emergency response procedures in accordance with subsection 14.3.1;
- ensuring that facility personnel are aware of hazards; and
- ensuring that facility personnel are trained to respond to emergencies.

Specific responsibilities of the BED shall include:

(a) determining when an event has occurred or a condition exists that requires appropriate emergency event classification;

(b) activating internal facility alarms or communications systems, where applicable, to implement actions to protect workers within their respective geographic area of responsibility as defined in the building emergency plan or procedures;

(c) assessing the potential or actual onsite and offsite consequences of the emergency;

(d) contacting the POC, via the 911 emergency number, to implement predetermined onsite protective actions and provide initial emergency and classification information in accordance with established procedures;

(e) reporting events or conditions in accordance with applicable state and Federal regulations;

(f) establishing an initial ICP and assigning other Incident Command Organization functions in accordance with established procedures to provide effective control at the event scene;

(g) assisting the IC, as necessary, in the mitigation of emergencies within the assigned building by:

- identifying the character, exact source, amount, and areal extent of any released materials;
- taking reasonable measures (e.g., stopping processes/operations, collecting/containing released waste, removing/isolating containers) necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other dangerous waste,

Permit requirement: Subsection 2.2.1.1.3(a), Class 1 Modification 9/30/99
Permit requirement: Subsection 2.2.1.1.3(e), Class 1 Modification 9/30/99
Permit requirement: Subsection 2.2.1.1.3(f), Class 1 Modification 9/30/99
Permit requirement: Subsection 2.2.1.1.3(g), Class 1 Modification 9/30/99

- monitoring for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment, as appropriate; and

(h) ensuring that building occupants take appropriate protective actions in response to events occurring in other onsite geographic areas or adjacent facilities.

The duties of the Facility/Building Emergency Response Organization may include, but will not be limited to:

- assisting in the alerting of employees of an emergency situation;
- assisting in the safe evacuation of the incident scene hazard area;
- providing immediate first-aid if required;
- placing operating systems or controls in a safe configuration;
- implementing or supporting the implementation of protective actions for the general population to include roadblocks and building sweeps;
- assisting in emergency classification and emergency notification of such classification within established regulatory time limits;
- providing assistance to the Hanford Fire Department and/or Hanford Patrol to include meeting and directing responders to the event scene, providing safe routes of travel, and providing immediate and constant interface, coordination, and information as the emergency situation requires;
- serving as emergency response team members in support of the Hanford Fire Department for entry into the incident scene hazard area for mitigation where personnel protective equipment requirements do not specify Level A or Level B dermal protection (refer to Appendix B of CFR 1910.120);
- providing chemical monitoring and assessment, in conjunction with the Hanford Fire Department Industrial Hygienist, for emergency response;
- providing radiological monitoring and assessment for emergency response; and
- providing support for chemical and/or radiological decontamination.

Emergency training requirements for the Facility/Building Emergency Response Organization are delineated in subsection 12.2.2.1.3.

2.2.1.2 Site Contractor Emergency Response Personnel

2.2.1.2.1 Hanford Fire Department. The Hanford Fire Department is the RL/ORP-designated incident command agency for control of all hazardous materials (radiological and nonradiological) and chemical/biological incidents on the site and, as such, controls the fire,

- As requested by the BED/BW, IC, or EDO where action to provide monitoring or assistance to the event scene is needed.
- As requested by the RAP team leader to support a RAP response.
- In response to non-DOE emergencies that affect the Hanford Site.
- In response to TEP events involving the offsite shipment of RL/ORP-owned hazardous materials.

The Hanford EOC is made up of several organizations that are responsible for implementing defined emergency response tasks. These organizational areas are defined in the following subsections. Detailed procedures for the activation, staffing, and operation of the Hanford EOC are contained in DOE-0223, *Emergency Plan Implementing Procedures*.

2.2.2.1 Policy Team. The primary functions of the Policy Team are the oversight of onsite activities, approval and communication of offsite protective action recommendations, approval of reclassification recommendations, oversight of public information activities, and coordination with offsite agencies.

The Policy Team is staffed by the RL/ORP Emergency Manager, Public Information Director, Emergency Preparedness Advisor, Offsite Interface Coordinator, DOE-HQ Liaison, and the responding state and county representatives.

During security incidents, RL is responsible for decisions that address mitigation of the security event. This involves direction and control of Hanford Site security and patrol forces, and coordination of facility response. However, the Federal Bureau of Investigation (FBI) may exercise the option to take command of security events involving the violation of the Atomic Energy Act of 1954 or other Federal statutes. Associated response by site contractor personnel for personnel and operational safety rests with the IC and the BED.

2.2.2.1.1 Policy Team Staffing and Responsibilities. The RL/ORP Manager (or designee) shall be the RL/ORP Emergency Manager. If the event involves an ORP facility, the ORP Manager (or designee) will assume the responsibility. The RL Manager (or designee) will assume the responsibility in all other events. The RL/ORP Emergency Manager is responsible for oversight operations of the Hanford EOC and for ensuring implementation of the responsibilities of RL as the lead Federal agency. In consultation with the Hanford EOC staff, the RL/ORP Emergency Manager approves emergency reclassification and termination, offsite PARs, and notifications.

Once operational, general functions of the Policy Team include:

- overview of onsite response and mitigation actions, and providing assistance to the event contractor as needed;
- providing offsite notifications and PARs to state, local, and Federal agencies, and continuous updates to the state/counties about conditions;

- notifying the DOE-HQ Cognizant Secretarial Officer (CSO) and the DOE-HQ Emergency Management Team if facility operations were shut down as a part of the protective action response;
- providing direction and control, as appropriate, during a security incident;
- reclassifying or terminating the emergency;
- directing the activities of the JIC in providing timely and accurate release of information to the public and media, including approval of RL/ORP news releases;
- forwarding requests for additional DOE emergency response assets to the Regional Response Coordinator as needed;
- providing liaisons to offsite emergency centers and responding DOE emergency response assets;
- providing a representative to DOE-HQ as requested; and
- designating a recovery organization.

2.2.2.2 Joint Information Center. The primary function of the JIC is the dissemination of accurate and timely information to the public and employees about RL/ORP activities during declared emergencies. The JIC operates under the direction of the Public Information Director and is staffed by RL/ORP, contractor, state, and county communication professionals responsible for coordinating the release of information to the public and media.

One or more Newswriter(s) reside next to the Policy Team area in order to obtain the most current information for the development of draft press releases. Once developed, the Newswriter(s) ensures that the releases are reviewed for technical accuracy and security sensitivities prior to approval by the RL Public Information Director. Upon approval, the press releases are sent to the JIC for dissemination.

The JIC provides a single location where RL/ORP and site contractors can coordinate the release of information with other Federal agencies, state, and local jurisdictions. Provisions shall be made at the JIC for representatives from the states of Washington and Oregon, plume EPZ counties, and other Federal agencies that may be involved in the emergency response.

The functions performed at the JIC include:

- preparing and coordinating information released to the public and media;
- answering questions of the public and media; and
- rumor control.

2.2.2.3 Site Management Team. The primary functions of the SMT are to provide support to the Incident Command Organization by providing additional resources not easily obtained by the IC; tracking the status of onsite protective actions; developing and directing implementation of additional onsite protective actions away from the event scene (i.e., the area not under the direct

control of the IC) as required; and providing communications support. The SMT is also responsible for hazards assessment activities, tracking personnel medical issues, developing additional offsite protective action recommendations, record keeping, and overall operation of the center.

The SMT is made up of four support organizations that are responsible for implementing defined emergency response tasks. These organizations are defined below.

2.2.2.3.1 Executive Team and Support Staff. The Site Emergency Director is responsible for the coordination of all SMT activities. In this role, the Site Emergency Director is responsible for the activities of the Event Support Coordinator, EOC Operations Manager, and the Consequence Assessment Director.

Since RL has an operational function over Hanford security forces, the Security Director is responsible for the activities of the Security Operations Coordinator. The Security Director will receive information from and provide direction to the security forces. The Security Director will communicate planned actions of security forces to the Site Emergency Director and Safety Oversight Director to ensure all safety and security issues are addressed and coordinated. The Site Emergency Director, in conjunction with the Security Director and Safety Oversight Director, is responsible for periodically providing status information to the RL/ORP Emergency Manager and the Policy Team. The Contractor Representative and SMT Emergency Preparedness Advisor provide support to the Site Emergency Director.

2.2.2.3.2 Security and Event Support. As part of the SMT staff, the Security Operations Coordinator's primary functions are security operations, which include interface with local law enforcement agencies, coordination with the Federal Bureau of Investigation (FBI), and oversight of onsite patrol activities. The Security Operation Coordinator reports directly to the Security Director.

The Event Support Coordinator is responsible for event support activities to include site support services, technical support, communications with the event scene, and coordination with the Emergency Decontamination Facility and other medical assessment activities. The Event Support Coordinator reports directly to the Site Emergency Director.

2.2.2.3.3 Unified Dose Assessment Center. As part of the SMT, the primary Unified Dose Assessment Center (UDAC) functions are monitoring and evaluating existing emergency conditions in order to develop additional protective action recommendations. The UDAC is responsible for field team activities to include plume tracking, monitoring, and sampling.

Representatives from the states of Washington and Oregon participate in the development of recommendations and provide direction for offsite environmental monitoring. The UDAC is operated by site contractor personnel with knowledge in the technical areas of meteorology, toxicology, industrial hygiene, and health physics. The Consequence Assessment Director is responsible for all UDAC activities and reports directly to the Site Emergency Director.

Specific UDAC responsibilities include:

- acquiring necessary data and measurements to evaluate personnel radiation doses and chemical exposures resulting from the event;
- assessing the potential for onsite and offsite consequences of a release of radioactive or nonradioactive materials based on meteorological conditions, source term, location and dispersal of the hazardous material;
- assisting the event contractor or other Hanford Site contractors in onsite hazard assessment or development of onsite protective actions;
- analyzing the consequences associated with evacuating versus remaining in a take cover situation for onsite personnel and recommending appropriate additional protective actions if necessary;
- developing offsite PARs in coordination with representatives from the states of Washington and Oregon; and
- coordinating and directing emergency environmental monitoring teams that are not assigned to the event facility. This may include state field teams performing offsite monitoring if requested by the states.

2.2.2.3.4 Hanford EOC Operations. As part of the SMT, the primary functions of the Hanford EOC Operations team are administration, record keeping tasks, and dissemination of information to offsite agencies (i.e., Hanford Emergency Notification Form, UDAC products, etc.). The EOC Operations Manager is responsible for these activities. In this role, the EOC Operations Manager reports directly to the Site Emergency Director.

2.2.2.4 Event Coordination Team. The Event Coordination Team is a partial staffing of the Hanford EOC that allows for a graded response to events occurring on or off the Hanford Site which are not further classified as an Alert or higher emergency. The Event Coordination Team can be used to provide resource and communications support to the ICP; to monitor abnormal conditions that could impact site workers, facilities, or operations (e.g., power outage, severe weather conditions); or for events that may require additional monitoring or distributing information to site workers and the public. The Event Coordination Team does not require that all Hanford EOC positions be filled. Instead, the on-call Site Emergency Director or Emergency Duty Officer will determine staffing and length of operation. Detailed procedures for the activation and responsibilities of the Event Coordination Team are contained in DOE-0223, *Emergency Plan Implementing Procedures*.

3.0 OFFSITE RESPONSE INTERFACES

3.1 OVERVIEW

Interfaces and coordination with offsite agencies are important in the planning, preparedness, response, and recovery elements of the Hanford emergency management program. As such, RL shall interface with Federal, tribal, state, local, and private organizations and/or agencies:

- that have a responsibility to protect the public and environment within the EPZs of the Hanford Site;
- with which RL supports as the Regional Coordinating Office for Region 8 (Oregon, Washington, and Alaska); and
- with which RL has entered into special agreements for assistance.

Where appropriate, RL shall develop and maintain agreements to formalize areas of understanding, cooperation, and support with offsite agencies.

3.1.1 Planning and Preparedness

The modes of interface for planning and preparedness activities, as is determined beneficial by the parties, may include:

- coordination of emergency plans and procedures;
- periodic meetings to share information and coordinate activities;
- training opportunities related to offsite responsibilities;
- development of agreements for support to and from offsite agencies;
- participation in annual exercises; and
- development of public information programs.

3.1.2 Response and Recovery

In the event of an emergency on or affecting the Hanford Site, RL shall interface with offsite agencies to ensure coordination and support of response and recovery activities. These interfaces include:

- notification and periodic updates to local jurisdictions within the plume EPZ, states that contain portions of the ingestion EPZ, and other agencies that may be requested to provide assistance (see respective subsections in section 5.0);

- communication and coordination with DOE-HQ;
- RL representation in appropriate offsite emergency centers;
- offsite representation in the Hanford EOC;
- PARs to offsite agencies; and
- event scene interface with offsite responders.

Communications with state and local EOCs are depicted on Figure 3-1.

3.2 FEDERAL AGENCIES

3.2.1 U.S. Department of Energy-Headquarters

The DOE-HQ Cognizant Secretarial Officers are responsible for ensuring implementation of policy and requirements for activities conducted under their respective areas of cognizance.

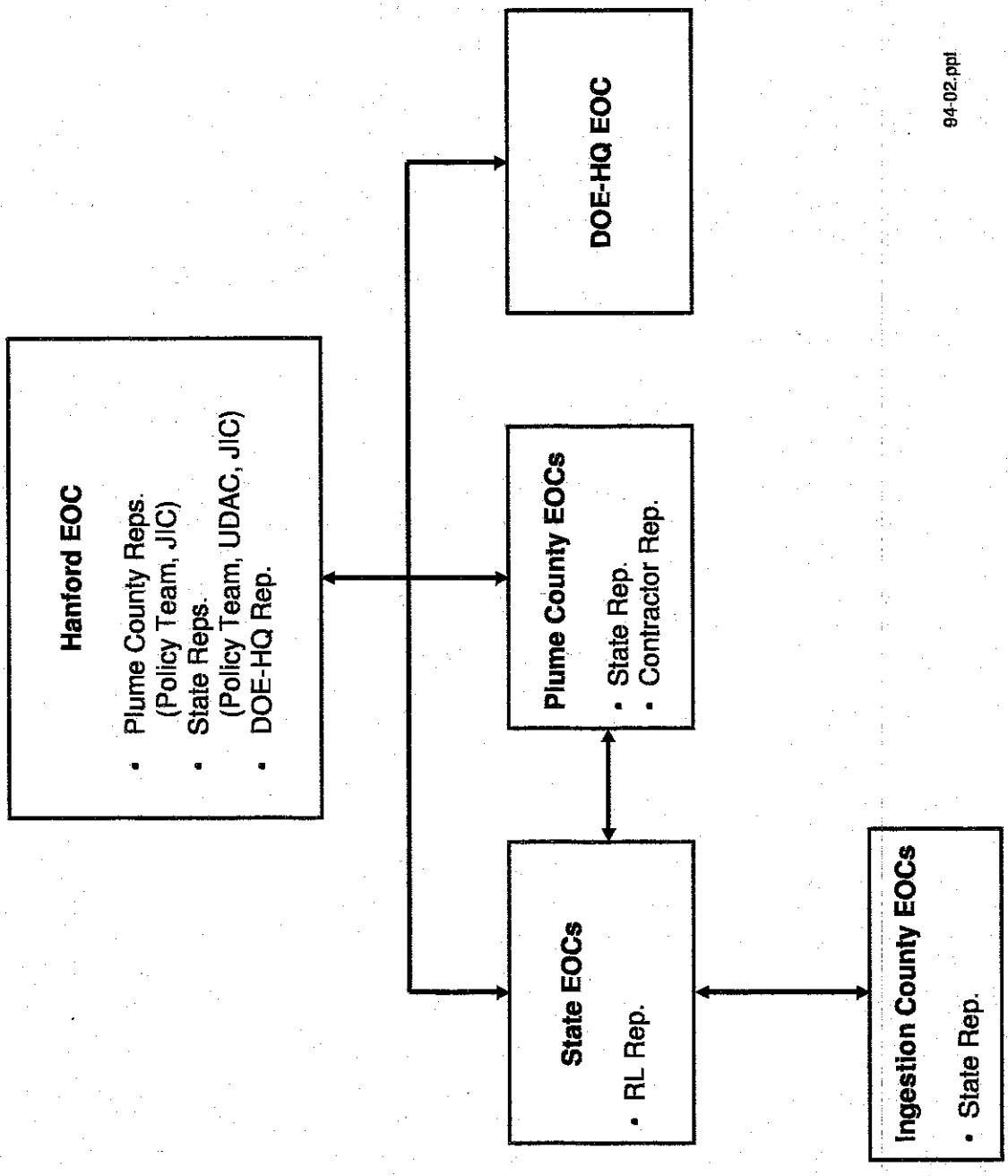
The DOE-HQ EOC serves as the point-of-contact for receipt of all emergency notifications and reports. Accordingly, the DOE-HQ EOC receives, coordinates, and disseminates emergency information to DOE-HQ elements and Program Office emergency points-of-contact, the White House Situation Room, and other Federal agencies. As such, emergency status reports shall be forwarded to the DOE-HQ EOC on a continuing basis until the emergency is terminated.

In the event of an emergency, a DOE-HQ Emergency Management Team is convened to:

- receive information on the facility, site, or area response;
- monitor the Operations/Field Office;
- provide appropriate support and assistance;
- assist with issue resolution; and
- coordinate interagency Congressional, and public information activities at the national level.

RL/ORP shall notify and provide information to the DOE-HQ EOC. Written reports shall be provided to the DOE-HQ EOC as soon as practical, but within 24 hours of emergency classification. A DOE-HQ Site Representative will respond to the Hanford EOC to provide liaison with the DOE-HQ EOC. Upon request from DOE-HQ, RL/ORP shall dispatch a liaison to support activation of the DOE-HQ EOC.

Figure 3-1. Lines of Communication Between Emergency Centers.



DOE also has seven emergency response assets available to assist at events if conditions warrant. These assets include:

- Aerial Measuring System (AMS) – provides fixed-wing aircraft and/or helicopters for remote sensing to detect and measure for ground deposition or perform aerial photography and multi-spectral imaging;
- National Atmospheric Release Advisory Capability (NARAC) – develops predictive plots to provide near real-time assessments of the consequences of accidental or potential radiation releases;
- Accident Response Group (ARG) – provides equipment for assessment, recovery, and disposal of damaged nuclear weapons and components;
- Federal Radiological Monitoring and Assessment Center (FRMAC) – coordinates the Federal radiological monitoring, assessment, and evaluation of data during a radiological emergency;
- Nuclear Emergency Support Team (NEST) – provides search and identification of nuclear materials, diagnostics and assessment of suspected nuclear devices, packaging, and transportation;
- Radiological Assistance Program (RAP) – provides radiological assistance during all types of radiological accidents or emergencies (considered DOE's First Responder team); and
- Radiation Emergency Assistance Center/Training Site (REAC/TS – provides health professionals and coordinators for consultation or direct medical care on health problems associated with radiation accidents.

Requesting emergency response asset assistance is delineated in subsection 5.1.1.2.3.

3.2.2 Federal Bureau of Investigation

The role of the FBI is to serve as the primary U.S. Law Enforcement Agency responsible for investigating alleged or suspected violations of the Atomic Energy Act of 1954, as amended, and other Federal statutes. As such, security events of national consequence occurring at the Hanford Site and within the jurisdiction of the U.S. Department of Justice (e.g., theft of special nuclear material, terrorist activity, weapons of mass destruction incidents) will be communicated to the FBI.

During these types of security events, the FBI becomes the Lead Federal Agency and acts as the On-scene Commander with responsibility for crisis management which may include intelligence, surveillance, tactical operations, behavioral assessments, negotiations, forensics, and investigation. The FBI will receive a complete briefing on the incident from Hanford EOC personnel and determine the need for additional regional and national FBI crisis management resources.

Command of FBI response activities, including plant security forces deployed at the event scene, will be the responsibility of the FBI Special-Agent-in-Charge when a declared security event has occurred. The FBI has the authority to assume command and control of all FBI and DOE on-scene crisis management resources, including plant security forces deployed at the event scene, when the FBI crisis management assets are in place and ready to assume their specific crisis management responsibilities. An RL Office of Security and Emergency Services (SES) representative will be assigned to provide direct support to the FBI as requested. RL will retain command and control of a security event until the FBI assumes this responsibility. Additionally, RL/ORP and site contractors will maintain operational control and authority over those site areas and resources not directly affected by the incident.

The DOE-HQ Office of Security and Emergency Operations maintains a memorandum of understanding (MOU) with the FBI Counterterrorism Division which provides mutual support guidelines concerning the contingency response planning, coordination of procedures, training and exercises, and operational cooperation required to effectively deal with actual or possible security related emergencies.

3.2.3 U.S. Coast Guard

The U.S. Coast Guard (USCG) (through the Thirteenth District Commander in Seattle, Washington and the Captain of the Port in Portland, Oregon) may regulate activities on navigable waters within the Hanford Site, when necessary, to prevent harm to persons, property, and the environment in or on those waters.

When notified of a Site Area or General Emergency, the USCG will close the appropriate portion of the Columbia River and make a broadcast to mariners.

In the event of an emergency, the ONC will make notifications and provide information to the USCG in Portland, Oregon.

3.2.4 U.S. Environmental Protection Agency

Under the provisions of the Federal Radiological Emergency Response Plan (FRERP), the EPA shall assume the LFA responsibility for coordinating the intermediate and long-term offsite radiation monitoring activities.

In the event of an emergency, the Hanford EOC shall notify and provide information to the EPA Region 10 in Seattle, Washington.

3.2.5 Federal Aviation Administration

The Federal Aviation Administration (FAA) may make flight restrictions for aircraft under their jurisdiction over the Hanford Site.

The ONC will notify and provide information to the FAA Seattle Center. At a Site Area or General Emergency the ONC may request the FAA to impose flight restrictions over the Hanford Site.

3.2.6 Federal Emergency Management Agency

The Federal Emergency Management Agency (FEMA) is responsible for coordinating Federal assistance (other than monitoring resources) to the states if requested. Under the provisions of the FRERP, FEMA coordinates the offsite (nontechnical) response.

At the time of a declaration of an emergency, the Hanford EOC notifies and provides information to the FEMA Region 10 office in Bothell, Washington.

3.3 STATE GOVERNMENT

States, along with local governments, share the responsibility for the protection of the public and the environment. The responsibilities and concept of operations for state agencies are described in the emergency response plans of each state.

RL shall work with the states of Washington and Oregon to assist in development of their program and response plans for an emergency at the Hanford Site. Periodic meetings will be conducted with the states to coordinate plans and share information. General descriptions of emergency responsibilities as well as areas of cooperation and understanding between RL and the states are delineated in memoranda of understanding (MOU). Copies of the MOUs are provided in Appendix B.

3.3.1 The State of Washington

The Governor of Washington is responsible for command and control of state resources to maintain and preserve life, property, and the environment in Washington. The lead agency for emergency planning and response activities is the Emergency Management Division of the Military Department. Other state agencies that participate in the planning process and have emergency response roles include the:

- Department of Health;
- Department of Agriculture;
- State Patrol;

- Department of Ecology; and
- Department of Transportation.

An emergency response plan is maintained by the Emergency Management Division that describes the concept of operations and roles and responsibilities of the state agencies. Emergency procedures are maintained by each state agency.

Responsibilities of the state of Washington include:

- providing a 24-hour single point of contact for the receipt of emergency notifications from RL/ORP;
- disseminating information to potentially affected counties within the plume and ingestion EPZs;
- coordinating ingestion protective action decisions and public information with the counties, the state of Oregon, and RL;
- providing assistance to counties as requested;
- evaluating offsite emergency PARs made to plume EPZ counties;
- making protective action decisions to protect public health from ingestion-related impacts, such as contamination of the food chain;
- performing field environmental radiological monitoring and dose assessments;
- providing guidance on emergency worker exposure and authorizing emergency workers to exceed protective action guides;
- implementing food, milk, and animal-feed control measures; and
- requesting Federal assistance as required.

3.3.2 The State of Oregon

The Governor of Oregon is responsible for directing and controlling state activities to protect the lives and property of Oregon citizens. The lead agency for Hanford Site emergency planning is the Oregon Office of Energy. Other state agencies that participate in the planning process and have emergency response roles include the:

- State Public Information Officer;
- Health Division;
- Emergency Management Division;
- Department of Agriculture;
- Oregon State University Radiation Center

- Military Department;
- State Police; and
- State Highway Division.

An emergency response plan is maintained by the Oregon Office of Energy that describes the concept of operations and roles and responsibilities of state agencies. Emergency procedures are maintained by each state agency.

Responsibilities of the state of Oregon include:

- providing a 24-hour single point of contact for the receipt of emergency notifications from RL/ORP;
- making protective action decisions for the state of Oregon;
- coordinating protective action decisions and public information with counties, the state of Washington, and RL;
- coordinating state and local emergency response within the state of Oregon;
- performing field environmental radiological monitoring and dose assessments;
- providing guidance on emergency worker exposure and authorizing emergency workers to exceed protective action guides;
- providing assistance to Oregon counties within the ingestion EPZ;
- implementing food, milk, and animal-feed control measures; and
- requesting Federal assistance as required.

3.4 LOCAL ORGANIZATIONS

Cities and counties are responsible for protecting the lives and property of their residents. The responsibilities and concept of operations for local governments are described in the emergency response plans of each jurisdiction.

RL shall work with local emergency response organizations through the county and state emergency management organizations. Generally, RL shall interface directly with emergency response and planning organizations providing service to those areas within a plume EPZ of a Hanford Site facility. Interface with those jurisdictions within the ingestion EPZ generally shall be accomplished through the state emergency management organization. To accomplish the necessary close coordination with local agencies, periodic meetings shall be conducted to share information and discuss concerns.

3.4.1 Plume Emergency Planning Zone Counties

Portions of Benton, Franklin, and Grant Counties are within plume EPZs of a Hanford Site facility. The Boards of County Commissioners are responsible for making emergency protective action decisions and implementing emergency response actions, as necessary, to protect their residents outside the Hanford Site boundary. The lead agency for emergency planning and coordination of emergency response is the county emergency management agency. County emergency response plans and procedures are developed by the emergency management agencies, working with county, city, and volunteer emergency response agencies, such as:

- law enforcement;
- fire and emergency medical;
- public works/road departments;
- hospitals; and
- American Red Cross.

The emergency responsibilities of the plume EPZ counties include:

- making and implementing protective action decisions to protect citizens who live within the plume EPZ;
- implementing protective action decisions, made by the state of Washington, for ingestion-related impacts to residents within the ingestion EPZ;
- disseminating alert and warnings to the public and providing emergency public information; and
- coordinating response actions and public information with neighboring counties, the state of Washington, and RL.

RL maintains agreements with Benton, Franklin, and Grant Counties that outline the areas of responsibility and cooperation (see Appendix B).

3.4.1.1 Law Enforcement. RL SES interfaces with local law enforcement agencies for support to the Hanford Site during emergencies. Via a contractual agreement, the Benton County Sheriff's Office provides law enforcement on the Hanford Site (i.e., traffic enforcement and criminal investigation), and assists in access control; and, as such, coordinates activities with RL SES and the Hanford Patrol.

RL SES maintains memorandums of understanding with the law enforcement agencies of Kennewick, Richland, West Richland, Benton County, Franklin County, and the state of Washington.

3.4.1.2 Fire and Emergency Medical. The Hanford Fire Department is signatory to the Tri-County Mutual Aid Agreement for fire agencies. The agreement, signed by 11 local fire agencies, provides mutual aid for fire or medical emergencies.

The Hanford Fire Department meets regularly with local fire agencies. The Hanford Fire Department and HEHF Representatives meet routinely with emergency medical service agencies to coordinate and share information.

3.4.1.3 Hospitals. RL maintains agreements with local hospitals, which provide for the care of injured, contaminated (chemical or radiological) Hanford Site personnel. These hospitals include:

- Our Lady of Lourdes Health Care Center;
- Kennewick General Hospital; and
- Kadlec Medical Center.

RL shall provide for training and exercise support, as needed, related to the services provided to the Hanford Site. HEHF shall provide expertise on radiological decontamination or chemical exposure and treatment as requested.

3.4.2 Ingestion Emergency Planning Zone Counties

Counties within the ingestion EPZ of the Hanford Site are responsible to implement measures to protect their residents from potential ingestion related impacts. In the state of Washington, the counties of Adams, Benton, Franklin, Grant, Kittitas, Klickitat, Walla Walla, and Yakima are within the 50-mile (80-kilometer) ingestion EPZ. In the state of Oregon, the counties of Morrow and Umatilla are included. Ingestion EPZ counties have emergency response plans that describe their responsibilities in the event of an emergency at the Hanford Site.

RL shall coordinate emergency planning and preparedness for ingestion counties through the Washington State Emergency Management Division and the Oregon Office of Energy. Ingestion county responsibilities include:

- coordinating with the state and implementing decisions regarding protective measures for its residents within the ingestion EPZ; and
- consulting with the respective state EOC on the identification of access control points, food control areas, food control stations, and strategies for relocation, restoration, and recovery in contaminated areas.

3.5 TRIBAL ORGANIZATIONS

RL shall provide appropriate information to the impacted tribal organizations to coordinate planning for ingestion-related response actions of the tribe(s).

3.6 PRIVATE ORGANIZATIONS

The Hanford Site emergency management program shall address private facilities on or near the site. These facilities may be impacted by an emergency at the Hanford Site, or may impact Hanford Site facilities if they experience an emergency.

RL shall coordinate emergency planning and preparedness activities with onsite private facilities (namely Energy Northwest and US Ecology. In the event of an emergency at a Hanford Site facility, onsite private facilities will receive notifications and information from RL.

Where emergencies at facilities operated by private organizations may impact the Hanford Site, RL shall ensure that the emergency management program addresses actions that must be taken to protect site workers and facilities.

Areas of cooperation with private organizations shall be documented in memorandums of understanding.

3.7 MEMORANDA OF UNDERSTANDING

RL shall develop and implement mutual assistance agreements with offsite agencies to document areas of cooperation and assistance when appropriate and as identified in Federal, state, and local regulations (see Table 3-1).

RL SES is responsible for executing and maintaining MOUs related to security and emergency preparedness. The Hanford Fire Department shall execute and maintain MOUs within its area of responsibility. MOUs shall be reviewed annually and revised as needed.

Copies of MOUs shall be provided to the CSO through their inclusion in Appendix B of this plan.

Table 3-1. Memorandums of Understanding

PARTIES	SERVICES/AREAS OF COOPERATION	POINTS OF CONTACT	CONSTRAINTS	DATE	EXPIRATION DATE	WHERE ON FILE
State of Washington	Document areas of cooperation between the parties in the planning for and response to emergencies at the Hanford Site.	Washington Emergency Management Division	None	01/08/04	Three years from actual date of signature or until canceled by any party after 60 days written notice to the other parties.	RL SES
State of Oregon	Document areas of cooperation between the state of Oregon and RL in the planning for and providing notification and interface in the event of an incident on the Hanford Site.	Oregon Department of Energy	None	06/21/00	Continue until canceled by either party by written notice to the other Amendments or modifications to this Agreement may be made upon written agreement by both parities to the Amendment.	RL SES
Benton County	Document areas of cooperation between the parties in the planning for and response to emergencies at the Hanford Site.	Benton County Emergency Management	None	03/16/00	Continue until canceled by either party by written notice to the other.	RL SES
Franklin County	Document areas of cooperation between the parties in the planning for and response to emergencies at the Hanford Site.	Franklin County Emergency Management	None	01/20/00	Continue until canceled by either party by written notice to the other.	RL SES
Grant County	Document areas of cooperation between the parties in the planning for and response to emergencies at the Hanford Site.	Grant County Emergency Management	None	05/25/00	Continue until canceled by either party by written notice to the other.	RL SES
Energy Northwest	Document areas of cooperation between the parties in the planning for and response to emergencies at the Hanford Site.	Energy Northwest Emergency Preparedness	The specific areas of assistance will be provided based upon availability, and are limited to those emergency actions necessary to protect onsite personnel, the public health and safety, and the environment in the event of a major emergency at the Hanford Site or Energy Northwest.	02/11/04	Continue until canceled by either of the parties upon 30 days written notice to the other party.	RL SES
Framatome ANP (formerly Siemens Power Corporation)	Establishes means by which RL can provide consequence assessment and meteorological information to Framatome ANP during an emergency at the Framatome ANP plant in Richland, Washington	Framatome ANP	Emergencies affecting the Hanford Site or Hanford facilities takes precedence over all other uses of the UDAC facilities and/or staff.	01/19/00	Remain in effect for five years from effective date, at which time it shall be reviewed and renegotiated, reissued, or terminated. Either party may withdraw upon 30 days written notice.	RL SES

Table 3-1. Memorandums of Understanding

PARTIES	SERVICES/AREAS OF COOPERATION	POINTS OF CONTACT	CONSTRAINTS	DATE	EXPIRATION DATE	WHERE ON FILE
National Weather Service	Sharing Meteorological Information.	NWS Western Regional Headquarters.	None	10/05/94	Agreement may be terminated by either party upon thirty days written notice to the other party.	RL SES
Our Lady of Lourdes Hospital (OLOL) Pasco, Washington	Significantly injured, contaminated persons will be admitted to facility for appropriate medical care.	OLOL Administrator	The responsibilities of OLOL will be limited to activities performed at the hospital.	08/17/98	Arrangements may be terminated by OLOL or by RL upon written notice to the other, which notice shall not become effective for at least 30 days after the date thereof.	RL SES
Kadlec Medical Center (KMC) Richland, Washington	Significantly injured, contaminated persons will be admitted to facility for appropriate medical care.	KMC Administrator	KMC will be limited to activities performed at the hospital and at the Emergency Decontamination Facility.	08/17/98	Arrangements may be terminated by KMC or by RL upon written notice to the other, which notice shall not become effective for at least 30 days after the date thereof.	RL SES
Kennewick General Hospital (KGH) Kennewick, Washington	Significantly injured, contaminated persons will be admitted to facility for appropriate medical care.	KGH Administrator	KGH will be limited to activities performed at the hospital.	08/17/98	Arrangements may be terminated by KGH or by RL upon written notice to the other, which notice shall not become effective for at least 30 days after the date thereof.	RL SES
Tri-County Mutual Aid Agreement	Provide mutual aid to parties hereto desire to augment the fire and emergency medical protection available in their establishments, districts, agencies, and municipalities in the event of large fires or conflagrations or other disaster.	Hanford Fire Department	Assistance under the agreement is not mandatory.	02/05/98	Remain in full force and effect until canceled by mutual agreement of the parties hereto or by written notice by one party to the other party giving ten (10) days notice of said cancellation.	Hanford Fire Department
Richland Police Department	Mutual law enforcement assistance.	Richland Police Department	Assistance will be provided subject to the provision of the agreement and any other conditions as the parties may agree.	03/14/00	Indefinite duration.	RL SES
West Richland Police Department	Mutual law enforcement assistance.	West Richland Police Department	Assistance will be provided subject to the provision of the agreement and any other conditions as the parties may agree.	03/14/00	Indefinite duration.	RL SES

Table 3-1. Memorandums of Understanding

PARTIES	SERVICES/AREAS OF COOPERATION	POINTS OF CONTACT	CONSTRAINTS	DATE	EXPIRATION DATE	WHERE ON FILE
Kennewick Police Department	Mutual law enforcement assistance.	Kennewick Police Department	Assistance will be provided subject to the provision of the agreement and any other conditions as the parties may agree.	03/14/00	Indefinite duration.	RL SES
Benton County Sheriff	Mutual law enforcement assistance.	Benton County Sheriff	Assistance will be provided subject to the provision of the agreement and any other conditions as the parties may agree.	03/14/00	Indefinite duration.	RL SES
Franklin County Sheriff	Mutual law enforcement assistance.	Franklin County Sheriff	Assistance will be provided subject to the provision of the agreement and any other conditions as the parties may agree.	03/14/00	Indefinite duration.	RL SES
Washington State Patrol	Mutual law enforcement assistance.	Washington State Patrol	Assistance will be provided subject to the provision of the agreement and any other conditions as the parties may agree.	02/14/00	Indefinite duration.	RL SES
Adams County Sheriff	Mutual law enforcement assistance.	Adams County Sheriff	Assistance will be provided subject to the provision of the agreement and any other conditions as the parties may agree.	03/27/00	Indefinite duration.	RL SES
Grant County Sheriff	Mutual law enforcement assistance.	Grant County Sheriff	Assistance will be provided subject to the provision of the agreement and any other conditions as the parties may agree.	03/14/00	Indefinite duration.	RL SES
Pasco Police Department	Mutual law enforcement assistance.	Pasco Police Department	Assistance will be provided subject to the provision of the agreement and any other conditions as the parties may agree.	04/03/00	Indefinite duration.	RL SES

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4.0 EVENT CATEGORIZATION, CLASSIFICATION, AND OTHER DETERMINATIONS

Categorization and classification of events are key to ensuring that appropriate notifications and response actions are promptly initiated. Event categorization and classification criteria are developed and maintained to include events that require similar actions. The spectrum of actions triggered by categorization range from management activities that are not required to be initialized until after an event is closed out (i.e., occurrence reporting), to full activation of onsite and offsite emergency response organizations.

At the Hanford Site, three event categories are used to meet the requirements of DOE Orders. The three event categories are: Operational Emergency, Unusual Occurrence, and Off-Normal Occurrence. Depending on the severity, an Operational Emergency may further be classified as an Alert, Site Area Emergency, or General Emergency.

In addition to categorization and classification, state and Federal regulations and mutual agreements between RL and state and county agencies require that events be assessed to determine if they meet RCRA contingency plan implementation criteria in order to comply with WAC-173-303-360(2)(d) requirements, or if they may generate public concern or media interest, which are termed as an Abnormal Event.

Since events may meet one or more event criteria, a sequential evaluation process prioritized according to the time urgency of the required actions is employed. This section describes the provisions that shall be established and maintained as methods to be used to recognize, categorize, and classify events in order to protect workers, the public, and the environment. The Unusual and Off-normal Occurrence categories are used solely for occurrence reporting purposes, which is delineated in DOE O 232.1A, *Occurrence Reporting and Processing of Operations Information.* Occurrence reporting is not addressed in this plan.

4.1 OPERATIONAL EMERGENCY

Operational Emergencies are unplanned, significant events or conditions that require time-urgent response from outside the immediate/affected facility or area of the incident. Operational Emergencies are divided into Base Program Operational Emergencies or Hazardous Material Operational Emergencies. Such emergencies are caused by, involve, or affect DOE facilities or activities and represent, cause, or have the potential to cause the events or conditions described in the respective subsections below. Incidents that can be controlled by employees or maintenance personnel in the immediate/affected facility or area are not Operational Emergencies. Incidents that do not pose a significant hazard to safety, health, and/or the environment and that do not require a time-urgent response are not Operational Emergencies. Initiating events that warrant categorization as Operational Emergencies shall be included in site- and facility-specific procedures.

Emergencies, once categorized, shall not be downgraded. An event determined to be an emergency will remain so until the emergency response is terminated.

RL/ORP shall determine the criteria to be used to categorize and classify Operational Emergencies based on site-specific criteria. Additional criteria may be based on the DOE *Emergency Management Guide* (DOE 1997). Site contractors shall maintain procedures to ensure recognition and appropriate categorization and classification of emergencies.

4.1.1 Base Program Operational Emergency

A Base Program Operational Emergency shall be declared when events occur that represent a significant degradation in the level of safety at a facility and that require time-urgent response efforts from outside the facility but do not involve the release or potential release of significant quantities of radiological or nonradiological materials. Since Base Program Operational Emergencies do not involve the release of significant quantities of hazardous materials, they do not require further classification (i.e., as Alert, Site Area Emergency, or General Emergency).

The designated point-of contact (e.g., BED/BW, contractor single point-of-contact), with assistance from ONC personnel will assess event information to determine if the event should be categorized as a Base Program Operational Emergency. The criteria for categorization of a Base Program Operational Emergency is part of the Abnormal Event criteria which is contained as a single criteria list within Hanford implementing directive HFID 232.1B, *Notification, Reporting, and Processing of Operations Information.*

Additionally, offsite transportation events involving RL/ORP-owned hazardous materials are categorized as Base Program Operational Emergencies and, as such, do not require classification.

4.1.2 Hazardous Material Operational Emergency

If an Operational Emergency represents a specific threat to workers and the public due to the release or potential release of significant quantities of radiological and nonradiological hazardous materials, it shall be classified as either an Alert, Site Area Emergency, or General Emergency, in order of increasing severity.

For facility events, the initial event classification shall be made by the BED or IC in accordance with established procedures.

For nonfacility events (e.g., transportation events, wildland fires), the initial event classification shall be made by the on-call Emergency Duty Officer.

The emergency classification shall be reviewed periodically to ensure the classification is commensurate with response activities; however, the classification shall not be downgraded until termination of the event. The criteria used to recognize and classify emergencies, called emergency action levels (EALs), are delineated in subsection 4.4. Hazardous Material Operational Emergency notification requirements are delineated in subsection 5.1.1.2.

4.1.2.1 Alert. An Alert shall be declared when events are predicted, are in progress, or have occurred that result in either of the following.

(1) An actual or potential substantial degradation in the level of control over hazardous materials (radiological and nonradiological). The radiation dose from any release to the environment of radioactive material or a concentration in air of other hazardous material is expected to be limited to a fraction of the applicable Protective Action Guide (PAG) or Emergency Response Planning Guideline (ERPG) at the facility boundary; but it is not expected that the applicable PAG or ERPG will be exceeded at or beyond the facility boundary. (See Table 4-2 for specific PAG and ERPG exposure levels.)

(2) An actual or potential substantial degradation in the level of safety or security of a facility or activity that could, with further degradation, produce a Site Area Emergency or General Emergency.

Additionally, an Alert represents an event where the entire Hanford Site ERO is required to provide more than event monitoring or minimal assistance to the facility organization.

At an Alert, the Hanford Site ERO shall:

- activate the DOE Hanford EOC and establish communications, consultation, and liaison with offsite agencies;
- continuously assess pertinent information for DOE decision makers, offsite agencies, the public, and other appropriate entities;
- conduct appropriate assessments, investigations, or preliminary sampling and monitoring;
- mitigate the severity of the occurrence or its consequences; and
- prepare for other response actions should the situation become more serious, requiring emergency response organizations to mobilize or activate resources.

4.1.2.2 Site Area Emergency. A Site Area Emergency shall be declared when events are predicted, in progress, or have occurred that result in either of the following situations.

(1) An actual or potential major failure of functions necessary for the protection of workers or the public. The radiation dose from any release of radioactive material or concentration in air from any release of other hazardous material is expected to be equal to or exceed the applicable PAG or ERPG exposure levels at the facility boundary but is not expected to be exceeded at or beyond the Hanford Site boundary. (See Table 4-2 for specific PAG and ERPG exposure levels. Refer to site boundary definition in subsection 1.4.2.)

(2) Actual or potential major degradation in the level of safety or security of a facility or process that could, with further degradation, produce a General Emergency.

At a Site Area Emergency, the Hanford Site ERO shall perform the same response actions as for an Alert plus the:

- initiation of predetermined protective actions for onsite personnel;
- provision of information to the public and the media;
- implementation of or assistance in any evacuations and sheltering; and
- mobilization of appropriate emergency response groups or protective/security forces for immediate dispatch should the situation become more serious.

4.1.2.3 General Emergency. A General Emergency shall be declared when events are predicted, in progress, or have occurred that result in the actual or imminent catastrophic reduction of facility safety or security systems with potential for the release of large quantities of hazardous materials (radiological or nonradiological) to the environment. The radiation dose from any release of radioactive material or a concentration in air from any release of other hazardous material is expected to be equal to or exceed the applicable PAG or ERPG exposure levels at or beyond the Hanford Site boundary. (See Table 4-2 for specific PAG and ERPG exposure levels. Refer to site boundary definition in subsection 1.4.2.)

At a General Emergency, the Hanford Site ERO shall perform the same response actions as for a Site Area Emergency plus the notification, mobilization, and dispatch of appropriate emergency response personnel and equipment, including appropriate DOE emergency response assets, and liaison with offsite agencies for the recommendation of predetermined public protective actions.

Operational Emergency notification requirements are delineated in respective subsections of section 5.0.

4.2 IMPLEMENTATION OF THE RESOURCE CONSERVATION AND RECOVERY ACT CONTINGENCY PLAN

Documentation to meet RCRA contingency plan requirements must be prepared by certain facilities conducting activities regulated under WAC-173-303 (Washington Dangerous Waste Regulations) in accordance with subsection 1.1. These requirements are incorporated into the Hanford Site's overall emergency planning documentation. Therefore, there is not a specific document titled "contingency plan."

For a facility event, the BED/BW shall determine whether the requirements of WAC-173-303-360(2)(d) were met based upon an evaluation and assessment in consultation with their respective site contractor environmental single point-of-contact.

The BED/BW ensures that trained personnel identify the character, source, amount, and areal extent of the release, fire, or explosion to the extent possible. Identification of waste can be made by activities that can include, but are not limited to, visual inspection of involved containers, sampling activities in the field, reference to inventory records, or by consulting with facility personnel. Samples of materials involved in an emergency might be taken by qualified personnel and analyzed as appropriate. These activities must be performed with a sense of immediacy and shall include available information.

The BED/BW shall use the following guidelines to determine if an event has met the requirements of WAC-173-303-360(2)(d):

(1) The event involved an unplanned spill, release, fire, or explosion;

AND

(2a) The unplanned spill or release involved a dangerous waste, or the material involved became a dangerous waste as a result of the event (e.g., product that is not recoverable), or

(2b) The unplanned fire or explosion occurred at a facility or transportation activity subject to RCRA contingency plan requirements;

AND

(3) Time-urgent response from an emergency services organization was required to mitigate the event, or a threat to human health or the environment exists.

As soon as possible, after stabilizing event conditions, the BED/BW shall determine, in consultation with the respective site contractor environmental single point-of-contact, if notification to Ecology is needed to meet WAC-173-303-360(2)(d) reporting requirements. If all of the conditions under 1, 2, and 3 are met, notifications are to be made to Ecology. The notification process is delineated in subsection 5.1.2.1. Operational Emergency notifications described in subsection 5.1.1 may also be required as determined on a case-by-case basis by the BED/BW.

If review of all available information does not yield a definitive assessment of the danger posed by the incident, a worst-case condition will be presumed and appropriate protective actions and notifications will be initiated. The BED/BW is responsible for initiating any protective actions based on their best judgement of the incident.

For transportation events on the Hanford Site that are outside of established facility boundaries, it is the responsibility of the Incident Command Organization staff to contact the respective site contractor environmental single point-of-contact for the contractor that initiated the shipment. Transportation incidents do not include events involving passenger vehicles, whether government or privately owned. Based on the event information received from the Incident Command Organization staff and application of the three criteria above, the respective site contractor environmental single point-of-contact shall make the determination whether the requirements of WAC-173-303-360(2)(d) are met. If reporting requirements are met, notifications delineated in subsection 5.1.2.1 shall be performed. Operational Emergency notifications described in subsection 5.1.1 may also be required and are determined on a case-by-case basis by the Incident Command Organization staff.

4.3 ABNORMAL EVENT

There are a variety of events or situations that may occur on the Hanford Site that, while not creating or indicating an emergency condition, may generate public concern or media interest. Local, state, and tribal agencies need timely information regarding these events in order to reassure the public that these situations do not threaten their health or safety.

RL will work with offsite agencies to maintain criteria that will be used to identify these situations, termed Abnormal Event. The criteria will include those events as mutually agreed to by RL/ORP and the offsite agencies. Furthermore, any incident categorized as an Operational Emergency, but not further classified as an Alert, Site Area Emergency, or General Emergency, will automatically trigger notifications to offsite agencies as an Abnormal Event. RL/ORP will further communicate criteria changes to the site contractors upon acceptance by RL/ORP and the offsite agencies.

In addition, it is possible to have transitory events where the EAL criteria were met at some point in the past but no longer exists when the event is reviewed for classification purposes. Such events do not pose a threat to workers or the public since there is no release of hazardous materials, but may generate public concern or media interest and, as such, will be reported under the Abnormal Event criteria.

4.4 EMERGENCY ACTION LEVELS

The EALs are specific, predetermined, observable criteria used to detect, recognize, and determine the classification of Hazardous Material Operational Emergencies identified by the hazards assessment. The EALs are typically identified as either event-based or symptom-based. The distinction arises from the available methods of detecting and recognizing the initiating conditions of the event. The development of symptom-based EALs is the preferred approach recognizing that there will usually be some initiating conditions that require an event-based approach. Initiating conditions must be identified specifically in EAL procedures and must be observable and recognizable in a timely manner by responsible personnel.

Facility-specific and nonfacility (e.g., onsite transportation incident, wildland fire, etc.) EALs shall be developed for the spectrum of potential Hazardous Material Operational Emergencies identified by the hazards assessment. Additional guidance for developing EALs can be found in the DOE *Emergency Management Guide* (DOE 1997) regarding hazards assessment and event classification.

The definitions delineated in Table 4-1, used in conjunction with Table 4-2, depict the criteria used at the Hanford Site to classify Hazardous Material Operational Emergency events. The BED/IC or EDO (for nonfacility events) is responsible for making initial classification of emergency events in accordance with RL/ORP and site contractor procedures.

Event classification using EALs also forms the basis for notification and participation of offsite organizations and for determining what and when protective actions will be implemented. As such, EALs and related information must be consistent and integrated with the emergency plans and procedures of offsite Federal, tribal, state, and local organizations and should be reviewed annually, as appropriate by all parties involved in response activities.

NOTE: It is possible when comparing event indications to an EAL set to discover that the EAL criteria were previously met, but those conditions no longer exist. If there is no threat to workers or the public then the incident may be a transitory event as delineated in subsection 4.3.

4.4.1 Symptom-Based Emergency Action Levels

Symptom-based EALs are dependent on one or more observable conditions or parameter values (i.e., symptoms) that are measurable over some continuous spectrum. The EALs should be the same indicators as those used to monitor routine facility operation. The level of severity indicated by these symptoms is directly related to the failure of or challenge to the facility's hazardous materials confinement barriers, other symptoms or events that occur simultaneously, and the ability of personnel to gain control and bring the indicator(s) back to safe levels. The resulting facility-specific EALs shall consist of specific quantified values (e.g., alarms and control instrument readings) that require no additional interpretation by the user. By comparing the observed value to the EALs in event classification procedures, the correct Hazardous Material Operational Emergency class can be readily determined.

4.4.2 Event-Based Emergency Action Levels

Event-based EALs address the occurrence of discrete events with potential safety significance. The level of severity is determined by the degree to which hazardous material confinement barriers are either failed or challenged as a result of the event, and the ability of personnel to gain control of the situation. Event classification requires the interpretation of one or more qualitative conditions or discrete observable indicators to determine if the existing situation matches the descriptions contained in the event classification procedure.

4.4.3 Emergency Action Level Development

The methodology for development of Hanford Site EALs is described in the following steps.

Step 1: Using the hazards assessment as the technical basis, identify the accident scenarios and consequences.

Step 2: Identify initiating conditions, barrier failures, system failures, contributing events and accident mechanisms for the scenario.

Step 3: Use the information developed in step 2 to identify specific equipment or other methods of detection.

Step 4: For detection and recognition methods that correlate directly to consequences, specific values for each emergency class are developed as necessary. These are symptom-based EALs.

Step 5: If there are no readily available methods to confirm a release, but the situation has the potential to exceed emergency criteria, the recognition of the event becomes the EAL. These are event-based EALs.

4.4.4 Use of Emergency Action Levels

On determination that an event has occurred at or affecting a Hanford Site facility, the BED/IC or EDO (for nonfacility events) shall promptly assess the conditions, compare the indications to the EAL set, and determine the appropriate Hazardous Material Operational Emergency classification. Then, immediate protective and mitigative actions, activation of the emergency response organization, and appropriate notifications are carried out.

The DOE Hanford EOC is responsible for ensuring that the emergency has been classified appropriately by the BED/IC or EDO (for nonfacility events) by reviewing the appropriate EAL to determine that the correct emergency classification has been selected.

Table 4-1. Summary of Hazardous Material Operational Emergency Classifications.

OPERATIONAL EMERGENCY CLASSIFICATION	FACILITY OR PROCESS EVENT	ONSITE TRANSPORTATION EVENT
Alert	Actual or potential substantial degradation of level of control over radiological or nonradiological hazardous material. Releases are not expected to exceed applicable PAG or ERPG levels at or beyond the facility boundary. OR Actual or potential substantial degradation in the level of safety or security that could, with further degradation, produce a Site Area Emergency or General Emergency.	Actual or potential substantial degradation of the safety of the shipment. Exposures in excess of PAG or ERPG levels only expected for personnel engaged in cleanup, recovery and investigation.
Site Area Emergency	Actual or potential major failures of functions necessary for the protection of workers or the public. Releases could exceed applicable PAG or ERPG levels onsite but not offsite. OR Actual or potential major degradation in the level of safety or security that could, with further degradation, produce a General Emergency.	Actual or potential major reduction in safety of a shipment. Release may exceed PAG or ERPG levels beyond the exclusion zone[1] onsite but not at nearest site boundary.
General Emergency	Actual or imminent catastrophic reduction of facility safety or security systems with potential for the release of large quantities of radiological or nonradiological materials to the environment. Releases reasonably expected to exceed applicable PAG or ERPG levels offsite.	Actual or imminent catastrophic reduction in safety of a shipment. Release expected to exceed PAG or ERPG levels offsite.

[1]The exclusion zone is defined as the immediate vicinity of the accident.

Table 4-2. Hanford Site Hazardous Material Operational Emergency Classification Criteria.

ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
≥ ERPG[1]-1 & < ERPG-2 at the facility boundary[2].	≥ ERPG-2 at the facility boundary.	≥ ERPG-2 at the Hanford Site boundary.
≥ 100 mrem TEDE[3] at the facility boundary.	≥ 1 rem TEDE at the facility boundary.	≥ 1 rem TEDE at the Hanford Site boundary.

[1]Appropriate ERPG values or equivalent as stated in the DOE *Emergency Management Guide*. Solubility class "D" uranium compounds are limited by chemical toxicity.

[2]The facility boundary is defined as the property protection area perimeter fence when present or a distance of 100 meters from the release location unless otherwise specified in the hazards assessment documentation.

[3]The total effective dose equivalent (TEDE) includes the summation of the doses delivered from plume submersion, ground shine, and inhalation from accidental releases.

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5.0 NOTIFICATIONS AND COMMUNICATIONS

5.1 NOTIFICATIONS

Notifications are made for events on the Hanford Site according to the event category (i.e., Operational Emergency, Unusual Occurrence, and Off-normal Occurrence); for environmental events, including those that meet the RCRA contingency plan implementation criteria; and for events that may generate public concern or media interest, termed Abnormal Events. Notifications shall be made in order of urgency with Operational Emergency (Hazardous Material Operational Emergency only) notifications performed first; Environmental notifications (including those that meet RCRA contingency plan implementation requirements) performed second; and Abnormal Event (including Base Program Operational Emergency), Unusual Occurrence, and Off-Normal Occurrence notifications performed last.

Contractors shall maintain procedures to ensure that notification and reporting requirements are made in accordance with DOE O 151.1 and DOE O 232.1A; applicable Federal, state, or local requirements; and special agreements with offsite agencies or tribal governments.

The Unusual and Off-normal Occurrence categories are used solely for reporting versus immediate action purposes. Notifications and written reports of incidents meeting occurrence reporting criteria are made to DOE-HQ and also to offsite entities as requested. RL shall maintain a listing of offsite agencies that are to receive the occurrence reports. Additional information regarding Unusual and Off-normal Occurrences is delineated in DOE O 232.1A, *Occurrence Reporting and Processing of Operations Information.* Occurrence Reporting is not addressed in this plan. Offsite transportation events involving RL/ORP-owned hazardous materials shall be reported in accordance with DOE O 151.1 and 49 CFR 171.15.

RL/ORP shall monitor the notification process to ensure notifications of applicable emergency events as necessary or appropriate.

5.1.1 Operational Emergency Notifications

Prompt and accurate emergency notifications are essential to mitigating consequences and for protecting the health and safety of workers and the public. For Operational Emergencies, procedures shall be established and maintained to provide prompt initial notification to workers and emergency response personnel and organizations, including appropriate offsite agencies, under the most limiting set of conditions.

For Operational Emergencies that also meet RCRA contingency plan implementation criteria in accordance with subsection 4.2, personnel shall perform notifications in accordance with subsection 5.1.2.

5.1.1.1 Base Program Operational Emergency Notifications. Site contractors shall ensure that their designated points-of-contact (e.g., BED/BW, contractor single point-of-contact) report events that meet notification criteria delineated in Appendix A of HFID 232.1B, *Notification, Reporting, and Processing of Operations Information*, to the ONC. These notifications shall be made as soon as possible (within 30 minutes). The designated point-of-contact, with assistance from ONC personnel, will assess the event information to determine if the event should be categorized as a Base Program Operational Emergency. If the event meets the Base Program Operational Emergency criteria, the ONC shall notify the DOE-HQ EOC within 30 minutes following categorization and the offsite agencies immediately following as part of the Abnormal Event notification delineated in subsection 5.1.3.

The same notification requirements apply to offsite transportation events involving RL/ORP-owned hazardous materials. The EDO shall provide categorization information to the ONC so that the notifications can be initiated.

5.1.1.2 Hazardous Material Operational Emergency Notifications. Hazardous Material Operational Emergency notifications shall be made quickly and accurately to:

- augment the site and facility operating staff with personnel in designated response roles to respond to the emergency;
- activate emergency centers;
- facilitate public notification by offsite authorities and agencies that have decision-making authority for directing protective actions (e.g., evacuation of local areas); and
- protect site and facility personnel and emergency workers through the provision of information necessary to implement accountability and protective actions such as sheltering, decontamination, and evacuation.

The Hazardous Material Operational Emergency notification process is outlined in Figure 5-1.

5.1.1.2.1 Initial Onsite and Offsite Notifications. The initial event classification (Alert, Site Area Emergency, or General Emergency per criteria delineated in subsections 4.1.2.1, 4.1.2.2, and 4.1.2.3 respectively) shall be made by the BED/IC or EDO (for nonfacility events) in accordance with established procedures.

The BED/IC or EDO (for nonfacility events) shall initiate immediate notifications via the 911 emergency number to request emergency response assistance and to notify onsite personnel within their geographic area of responsibility via sirens, the onsite crash alarm telephone system, or plant telephone so that they can take appropriate protective actions.

The BED/IC or EDO (for nonfacility events) is responsible for making notifications for the purpose of onsite protective actions. The protective actions include, as applicable, actuating appropriate facility sirens, notifying the POC to actuate additional sirens, and/or initiating crash alarm telephone system notifications.

•

• Additionally, the BED/IC or EDO (for nonfacility events) is responsible for ensuring that a completed copy of the Hanford Emergency Notification Form (Figure 5-2) is transmitted to the ONC in accordance with established procedures. If a facsimile machine is not available, the BED/IC or EDO (for nonfacility events) is responsible for ensuring that pertinent information from the Hanford Emergency Notification Form is provided to the ONC.

Upon notification from the BED/IC or EDO (for nonfacility events) regarding the declaration of a emergency event classified as Alert, Site Area Emergency, or General Emergency, the ONC shall make offsite notifications within 15 minutes to:

- DOE-HQ EOC;
- Benton County, Franklin County, Grant County, Washington State, and Energy Northwest via the DOE Crash Alarm Telephone System (hot line); and
- Oregon State.

The ONC shall also initiate the automated Emergency Notification System (ENS) and pager system to activate the Hanford EOC and make onsite notifications, as appropriate, to the:

- DOE Hanford management on-call;
- Emergency Duty Officer (FHI);
- PNNL single point-of-contact;
- CH2M Hill single point-of-contact;
- BHI single point-of-contact; and
- HEHF single point-of-contact.

Within 30 minutes of the event declaration, the ONC Duty Officer shall notify, as applicable to the event, other offsite agencies that may have personnel working in remote locations of the Hanford Site (e.g., personnel at locations without alarm or siren capabilities). All other notifications shall be made as soon as practical. The ONC shall maintain a list of agencies to be notified.

5.1.1.2.2 Reclassification Notifications. Reclassification of rapidly escalating emergencies shall be made by the BED/IC or EDO (for nonfacility events) until the Hanford EOC is declared operational. The BED/IC or EDO (for nonfacility events) shall provide immediate appropriate protective action notification to onsite personnel within their respective geographic area of responsibility and also provide notification to the POC and ONC via the 911 emergency number regarding the reclassification. The ONC then shall notify the offsite emergency response organizations of the event reclassification.

Upon declaration of their operability, the Hanford EOC shall have the responsibility for reclassifying or terminating emergencies, disseminating additional protective action decisions to onsite personnel, and performing offsite notifications that include protective action recommendations.

The same offsite notification requirements listed above apply anytime an event is reclassified.

5.1.1.2.3 U.S. Department of Energy Emergency Response Assets. It is the responsibility of the Hanford EOC to forward any requests for national DOE emergency response assets to the Regional Response Coordinator. Response to events requiring DOE emergency assistance shall be directed to appropriate DOE-HQ elements. DOE responsibilities for emergency assistance are delineated within interagency Federal response and recovery plans, Executive Orders, and/or international agreements. Specific notifications for response to a request for radiological assistance are described in DOE/RL-92-49, *U.S. Department of Energy Radiological Assistance Program Response Plan Region 8.*

5.1.1.2.4 Reports. Following termination of emergency response, and in conjunction with the Final Occurrence Report per DOE O 232.1A, the facility shall submit a final report on the emergency to the Occurrence Reporting and Processing System. The RL/ORP Manager shall designate a lead evaluator to conduct an evaluation and submit a final report on the emergency response. Upon approval by the RL/ORP Manager, the final report shall be submitted to the Associate Deputy Secretary for Field Management and the Director of Emergency Management.

All reports and releases shall be reviewed for classified or Unclassified Controlled Nuclear Information prior to being provided to noncleared personnel, entered into unclassified data bases, or transmitted using nonsecure communications equipment.

5.1.2 Environmental Notifications

There are numerous environmental notifications that must be made including those that meet the RCRA contingency plan implementation requirements. These notifications are made either verbally or in writing, dependent on the event type. In many cases, notification requirements are based upon the quantity and location of a spill or release.

Site contractors shall maintain procedures to ensure implementation of environmental notifications in accordance with Federal, state or local requirements and agreements. Since events relating to spills or releases usually do not meet criteria for a DOE Order classifiable emergency (i.e., Alert, Site Area Emergency, or General Emergency), contractors must ensure that environmental notification procedures are consistent with the environmental notification process depicted in Figure 5-3.

Figure 5-1. Hazardous Material Operational Emergency Notifications.

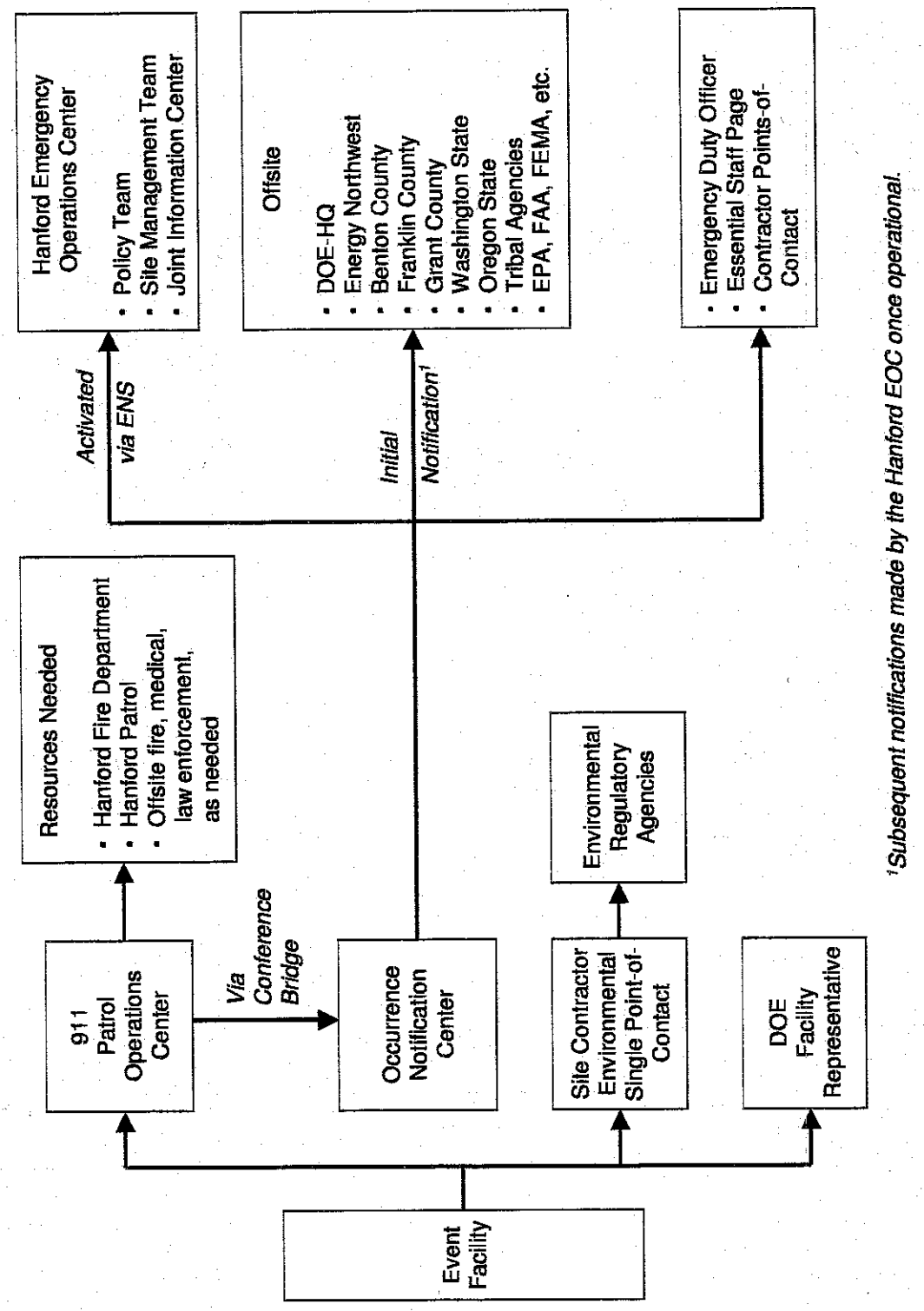


Figure 5-2. Hanford Emergency Notification Form.

RL-F-5540.1
(06/03)

U.S. DEPARTMENT OF ENERGY
HANFORD EMERGENCY NOTIFICATION FORM

No. _____

1 NOTIFICATION PROVIDED BY: Name: _____ Phone: (509) _____

2 AREA AND FACILITY: _____ 3 TYPE EVENT: a. ☐ Emergency b. ☐ Exercise/Drill

4 CLASSIFICATION/STATUS:

a. ☐ Initial Classification b. ☐ Reclassification c. ☐ Termination d. ☐ PAR Change/Addition e. ☐ Information

5 EMERGENCY CLASSIFICATION LEVEL AND OFFSITE PROTECTIVE ACTION RECOMMENDATIONS:

AREA	a. ☐ ALERT	b. ☐ SITE AREA EMERGENCY	c. ☐ GENERAL EMERGENCY
☐ 100	None	Evacuate Columbia River from Vernita Bridge to Leslie Groves Park.	• Evacuate Columbia River from Vernita Bridge to Leslie Groves Park. • Evacuate Section 5, east of Hwy. 24.
☐ 200	None	Evacuate Columbia River from Vernita Bridge to Leslie Groves Park.	• Evacuate Columbia River from Vernita Bridge to Leslie Groves Park. • Evacuate Sections 5, 6, and 7.
☐ 300	None	Evacuate Columbia River from Vernita Bridge to Leslie Groves Park.	• Evacuate Columbia River from Vernita Bridge to Leslie Groves Park. • Evacuate 2.2 mile radius.
☐ 400	None	Evacuate Columbia River from Vernita Bridge to Leslie Groves Park.	Evacuate Columbia River from Vernita Bridge to Leslie Groves Park.
☐ 600	None	None	Evacuate Columbia River from Vernita Bridge to Leslie Groves Park.

6 TYPE OF INCIDENT: *check all that apply*

a. ☐ Fire b. ☐ Explosion c. ☐ Radiological d. ☐ Security e. ☐ Hazardous Materials f. ☐ Electrical g. ☐ Other

EAL No.: DOE-0223, RLEP 1.0, Appendix 1-_____ Table _____

Description of Incident: _____

7 RELEASE TO THE OUTSIDE ENVIRONMENT INFORMATION:

a. ☐ No Release (No indicators)
b. ☐ Unknown (Indicators of possible release, but not confirmed)
c. ☐ Confirmed Release
- Estimated Start Time of Release: _____
☐ Airborne ☐ Spill ☐ to Columbia River
d. ☐ Release Terminated - Time: _____

8 METEOROLOGICAL DATA:

Wind Speed _____ mph
Wind Direction: from _____
Precipitation: ☐ Yes ☐ No
Stability Class:
A ☐ B ☐ C ☐ D ☐ E ☐ F ☐ G ☐

9 PROGNOSIS OF SITUATION:

a. ☐ Unknown b. ☐ Stable c. ☐ Escalating d. ☐ Improving

FOR EOC USE ONLY

10 ADDITIONAL OFFSITE PROTECTIVE ACTION RECOMMENDATIONS:

APPROVED: _____ DATE: _____ TIME: _____

5.1.2.1 Initial/Verbal Notifications. For any incident which involves a spill, release, fire, explosion, or environmental permit exceedence, the respective site contractor environmental single point-of-contact shall be notified to determine applicability of requirements and perform appropriate environmental notifications. The respective site contractor environmental single point-of-contact shall notify the appropriate Federal, state and/or local agencies. Additionally, the ONC shall be notified in order to determine if an Abnormal Event notification is also required as delineated in subsection 5.1.3.

5.1.2.2 Written Reports. The respective site contractor shall develop any necessary written reports and submit to RL/ORP for review and concurrence. RL/ORP shall submit written reports to the appropriate Federal, state or local agencies within the required time frames.

5.1.2.3 Resumption of Operations. The respective site contractor environmental single point-of-contact shall notify the appropriate Federal, state and/or local agencies that the facility is in compliance with cleanup activities described in subsection 9.2.3 before operations are resumed.

5.1.3 Abnormal Event Notifications

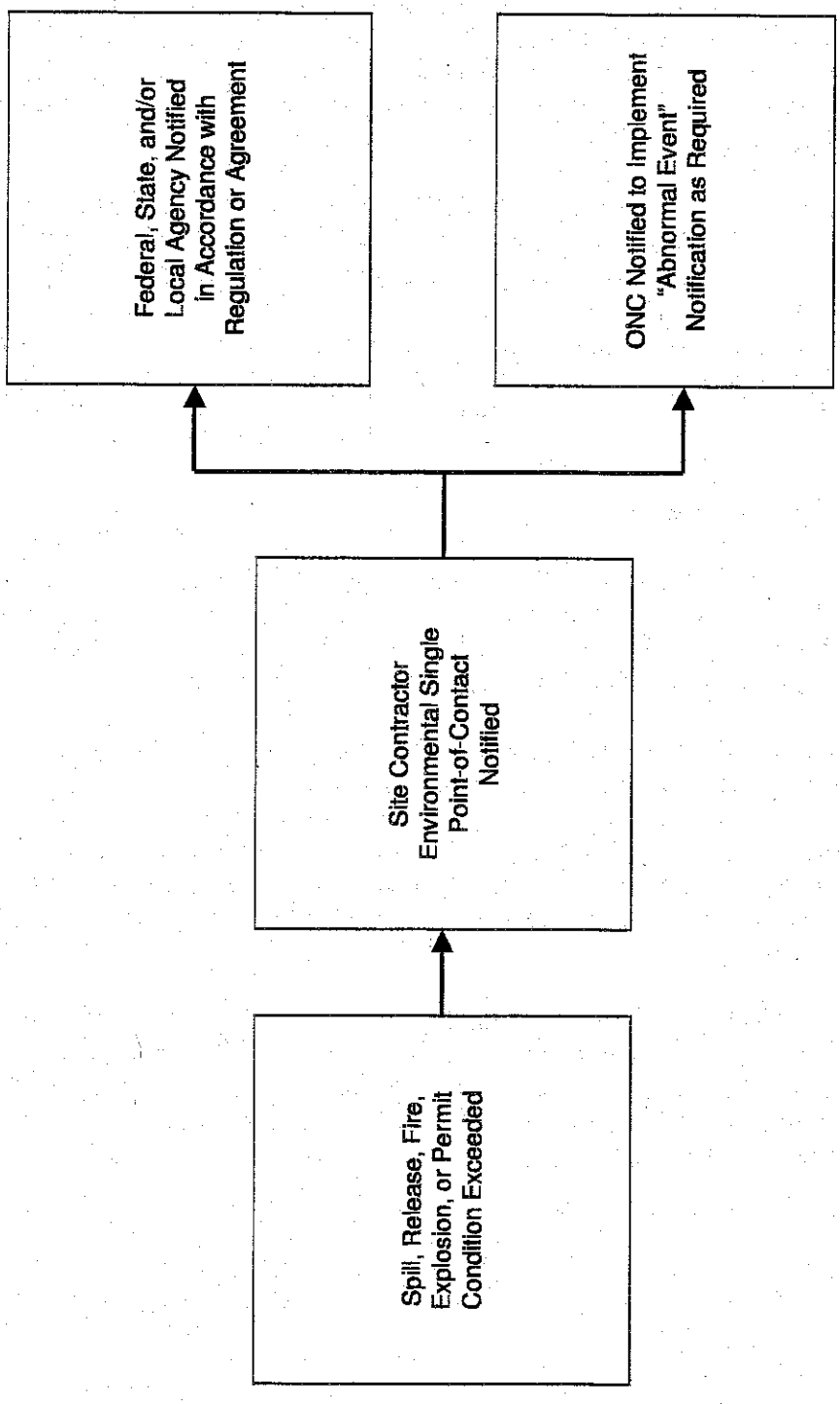
There are a variety of events or situations that may occur on the Hanford Site that, while not creating or indicating an emergency condition, may generate public concern or media interest. Local, state and tribal entities need timely information on these events in order to reassure the public that these situations do not threaten their health or safety.

RL shall maintain a process to advise offsite entities of situations - termed Abnormal Event - which may generate public concern or media interest. RL will work with appropriate offsite entities to maintain the criteria to be used to initiate the Abnormal Event notifications, the notification procedure, and a list of entities to be notified. Additionally, RL shall notify the site contractors when criteria change. The Abnormal Event notification process is further delineated in the Hanford implementing directive HFID 232.1B, *Notification, Reporting, and Processing of Operations Information.*

Site contractors are responsible to ensure that events meeting the HFID 232.1B Abnormal Event notification criteria at their respective facilities are promptly reported to the ONC. The ONC will initiate Abnormal Event notifications when notified of a situation which meets the agreed upon criteria. Additionally, offsite agencies will notify the ONC if public or media inquiries indicate the need to initiate notifications.

Permit requirement: Subsection 5.1.2.1, Class 1 Modification 9/30/99
Permit requirement: Subsection 5.1.2.2, Class 1 Modification 9/30/99
Permit requirement: Subsection 5.1.2.3, Class 1 Modification 9/30/99

Figure 5-3. Environmental Notifications.



5.2 COMMUNICATIONS

Effective communications methods shall be established between event scene responders, emergency managers, and response facilities. Provisions shall also be established for continuing effective communication (i.e., back up means of communication) among the response organizations throughout an emergency. To minimize the potential for confusion in disseminating information, the simplest, most direct system for communications should be established.

The communications system shall provide for designated point(s) of contact for receipt of notifications; compatibility with other Federal, tribal, state, and local response organizations; and rapid dissemination of information received to provide for timely and effective response actions.

5.2.1 Telephone Number 911

The Hanford Site emergency number for requesting emergency response is 911. This number shall be monitored and recorded at all times by the Hanford Patrol at the POC. The 911 emergency number shall be called when emergency conditions exist that requires responses from the Hanford Patrol or Hanford Fire (including ambulance or the Hazardous Materials Response Team), or whenever there is any doubt as to the conditions present.

Where cellular telephone is the only method of communication, onsite emergency response may be requested by calling the POC at 373-3800.

5.2.2 Telephone Number 373-3800

This is the 24-hour business telephone number for the POC. Additionally, this number is used as the Hanford Site single point-of-contact number for notification of offsite transportation events involving RL/ORP-owned hazardous materials shipments.

5.2.3 Telephone Number 376-2900

This is the Hanford Site telephone number for reporting occurrences to the ONC in accordance with occurrence reporting requirements. This number shall be monitored at all times by ONC personnel.

5.2.4 Site Contractor Environmental Single Point-Of-Contact

Each site contractor shall maintain a communications mechanism (e.g., telephones, pagers) in order to perform the notifications described in subsection 5.1.2.1.

5.2.5 Onsite Crash Alarm Telephone System

The crash alarm telephone system is composed of dedicated telephones (red in color), which are activated to provide a quick, reliable, and interactive medium for simultaneously disseminating emergency messages to employees. All employees are responsible for answering the crash telephone when it rings, receiving the information, and passing it on to the BED/BW and other employees in the building. The system is activated by the POC or the Hanford EOC.

Independent crash alarm telephone systems provide coverage for the 100N (includes 100B/C, 100DR, 100H, and 100F), 100K, 200, 300, and 400 Areas.

5.2.6 Emergency Notification System

The ENS provides a medium for rapidly relaying emergency messages and information to key emergency personnel by the use of a computerized calling and message-delivery system, with the capability to record selected responses. The ENS is used to notify/activate emergency center response personnel. The ENS shall be initiated by the ONC.

5.2.7 Priority Message System

The priority message system or management bulletin is a network of e-mail and/or facsimile machines used to disseminate information to Hanford Site employees. Priority messages will be developed and disseminated by public affairs personnel.

5.2.8 Radios

Multiple radio systems and frequencies are available for emergency communications. A repeater station located on Rattlesnake Mountain provides sitewide communications capability.

Radio transmissions, as well as mobile telephone communications, are conducted over frequencies monitored not only by Hanford Site contractors, but also by non-DOE personnel and the general public. Extra precautions shall be taken to prevent communication of sensitive information during regular and emergency communications (such as names and speculative information).

5.2.9 Incident Command Post Communications

The ICP shall have communications to facilities outside of the affected event scene. Methods of communication include the use of:

- commercial telephone (adjacent buildings should be identified where commercial telephones are available);

- cellular telephone; and
- portable and/or fixed radio with capability to transmit on the Hanford Site safety network, Hanford Patrol, or Hanford Fire frequencies.

5.2.10 Hanford Emergency Operations Center Communications

The Hanford EOC shall have appropriate methods of communications including backup communications. These shall include:

- commercial telephone;
- cellular telephone; and
- portable and/or fixed radio with capability to transmit on the Hanford Site safety network, Hanford Patrol, or Hanford Fire frequencies.

Additionally, the following two dedicated networks will be maintained.

- The DOE Crash Alarm Telephone System which establishes a conference bridge with:
  - Energy Northwest;
  - Benton County;
  - Franklin County;
  - Grant County;
  - Washington State;
  - Oregon State;
  - Hanford POC;
  - ONC; and
  - Hanford EOC.

  NOTE: This system will be used by the ONC to make initial notifications of emergency classification and PARs, and by the Hanford EOC to make subsequent notifications of emergency classifications or reclassification, PARs, and emergency termination.

- The ERO Communications Line that establishes a conference bridge and is the primary method to communicate event information between the Hanford EOC and the ICP.

5.2.11 Secure Communications

Secure communications in the Hanford EOC shall be accomplished, as necessary, using the Secure Telephone Unit III (STU-III) telephone system. This system enables establishment of a secure, closed network for voice communications.

5.2.12 Emergency Signals

Table 5-1 lists the standard Hanford Site emergency signals, their meanings, and normal response actions.

Table 5-1. Standard Emergency Signals.

SIGNAL	MEANING	ACTIONS
Gong/electronic chime	Fire	Vacate building; proceed to staging area.
Steady tone on whistle, Klaxon horn, or siren	Area evacuation	Vacate building; proceed to evacuation staging area. Personnel in vehicles shall proceed to the nearest facility staging area and report to the staging area manager.
Wavering siren or short blasts on whistle, klaxon horn or siren	Take cover (shelter)	Proceed to shelter or stay indoors. Close all exterior doors, turn off all intake ventilation (as applicable), and notify manager of whereabouts. Personnel in vehicles shall proceed to the nearest occupied facility and report to facility management.
AH-00-GA horn (howler) or flashing blue light (in high noise areas)	Nuclear criticality	Run at least 100 feet from building; proceed to staging area.
Red light with ringing bell	Air contamination	Stop work activities; immediately exit the area; notify Radiological Control personnel.
Ringing of a red crash alarm telephone	Emergency communications	Lift receiver, do not speak, listen to caller, and relay message(s) to the BED/BW and the building occupants.

6.0 CONSEQUENCE ASSESSMENT

Initial and continuous consequence assessments are necessary to protect workers, the public, and the environment during a declared emergency. Consequence assessments evaluate and interpret radiological or other hazardous materials measurements or other information to provide a basis for decision-making. In this context, planning includes developing and preparing postulated scenarios for onsite and offsite consequence projections for development of PARs, and identifying personnel and resources to provide an effective response.

6.1 CONSEQUENCE DETERMINATION

Provisions shall be established to adequately assess the potential or actual onsite and offsite consequences of an emergency. Hanford Site consequence assessment activities shall:

- be timely throughout the emergency;
- be integrated with the event classification and protective action process;
- incorporate monitoring of specific indicators and field measurements; and
- be coordinated with offsite agencies.

The airborne release pathway typically represents the most time-urgent situation, requiring a rapid, coordinated response. Releases to aquatic and ground pathways may not have the same time-urgency, however considerations of these pathways shall be a part of the consequence assessment activities at the Hanford Site.

6.1.1 Meteorological Monitoring

Representative collection of meteorological data currently is required to support environmental monitoring activities for ensuring that Hanford Site operations involving airborne releases of hazardous material comply with applicable Federal, state, and local environmental protection laws and regulations, executive orders, and internal department policies. Characterization of atmospheric transport and diffusion conditions (e.g., wind speed, wind direction, stability) in the vicinity of the Hanford Site facilities is essential for consequence assessments of airborne releases of hazardous materials. Other meteorological conditions (e.g., precipitation, temperature, and atmospheric moisture) are important to environmental surveillance activities (both routine and nonroutine) such as air concentration and ground deposition monitoring.

6.1.2 Water/Groundwater Monitoring

The water/groundwater monitoring and environmental surveillance programs required by DOE Order 5400.1 (DOE 1990) shall be used to characterize transport and diffusion of accidental releases of hazardous materials to aquatic pathways in the vicinity of a Hanford Site facility.

6.1.3 Event Scene Consequence Assessments

These assessments will be conducted at the event scene by the ICP staff. The ICP staff should continuously evaluate the environmental conditions for inhabitants of the command post and relocate the command post as necessary.

6.1.4 Area Consequence Assessments

It is necessary to evaluate the consequences of releases of radioactive and nonradioactive materials at locations beyond the immediate vicinity of the event scene. This is typically within a defined Hanford Site area (e.g., 100K, 200E, 200W, 300, 400 Area) and includes all areas outside of the event scene and within the immediately affected area. The types of evaluations that should be conducted are those that affect the ability of operations staff to safely shutdown operational facilities and those that affect the ability of residents to take protective actions. This activity typically is performed by the UDAC for impacts to other Hanford Site populations.

6.2 COORDINATION OF CONSEQUENCE ASSESSMENT RESULTS

The UDAC has the primary responsibility for overall onsite and offsite consequence assessment for the Hanford Site. The UDAC staff shall continuously assess event conditions that may include:

- release source terms;
- mitigation efforts;
- onsite and offsite field team data; and
- meteorological conditions.

Modeling tools shall be used to predict the consequences of a release of hazardous materials. The results of these calculations are shared with onsite and offsite emergency responders and appropriate PARs are disseminated to affected individuals.

RL shall make provisions for representatives from Washington and Oregon to participate in the consequence assessment, field team coordination, and the offsite PAR development process.

7.0 PROTECTIVE ACTIONS AND REENTRY

An important part of the emergency management program at the Hanford Site is the planning for physical measures that may be needed to protect workers and the public from adverse health affects resulting from the release of hazardous materials. The initial response to any emergency will be to immediately protect the health and safety of persons in the immediate area. Identification of released material is essential to determine appropriate protective actions. Containment, treatment, and disposal assessment will be the secondary responses. This section describes the areas that may be impacted and the protective actions that may be needed.

7.1 EMERGENCY PLANNING ZONES

Emergencies at site facilities may require actions only on the Hanford Site or may affect offsite areas. The Hanford Site emergency management program uses the EPZ concept to focus emergency planning activities. The EPZs are designated areas, based upon hazards assessments, in which predetermined protective actions may be required.

The extent of a planning zone is based on the distance that a particular substance could expect to be dispersed in a particular form. The two types of exposure "pathways" for both radiological and nonradiological hazardous materials are delineated below.

- Plume Exposure Pathways: Exposure to a passing cloud, or plume, of the substance resulting in direct contact of the substance with the exterior of the body or through inhalation of the substance.

- Ingestion Exposure Pathway: Dispersal of the substance to various internal organs following the ingestion (eating or drinking) of contaminated foodstuffs or water.

RL shall develop EPZs, as determined necessary by hazards assessments, and submit them to affected states and counties for their use in emergency planning. Additionally, approved EPZs shall be submitted to the Assistant Secretary for Environment, Safety, and Health; the Director of Emergency Management; and the CSO.

7.1.1 Plume Exposure Pathway Emergency Planning Zones

The extent of the plume exposure EPZ for radiological hazards is based upon the potential for exposure by the:

- inhalation exposure from the passing radioactive plume; and/or

- whole body external exposure to beta or gamma radiation from the plume and from deposited radioactive material.

The extent of the plume exposure EPZ for nonradiological hazardous materials is based upon the potential for exposure by:

- inhalation from the plume; and/or
- skin or eye contact with the plume.

Either of these exposure routes could dominate, depending upon the toxicological and physicochemical characteristics of the hazardous material.

The plume exposure pathway EPZ includes the area of the hazardous material spill, areas immediately surrounding the spill or release, and downwind areas projected to receive significant concentrations of hazardous materials. Plume exposure EPZs have been determined for each facility based on the radiological, nonradiological, or mixed (radiological and nonradiological) hazards. Area plume exposure EPZs (i.e., 100, 200, 300, and 400 Areas) are determined by the largest facility EPZ in that area. The plume exposure EPZs are described in Table 7-1.

Figure 7-1 shows the plume exposure EPZs for geographical areas on the Hanford Site with potential offsite consequences.

Table 7-1. Hanford Site Area Plume Emergency Planning Zones.

LOCATION	TYPE OF HAZARD DETERMINING EPZ SIZE	RADIUS OF ZONE[1]
100K Area	Radiological	8.0 kilometers/5.0 miles
100N Area	Radiological	5.0 kilometers/3.0 miles
200E/W Area	Radiological	16.0 kilometers/10.0 miles
300 Area	Radiological	3.5 kilometers/2.2 miles
400 Area	Radiological	7.2 kilometers/4.5 miles

[1]For the purposes of EPZ definition, the receptor location is defined as the south and/or west shore of the Columbia River.

7.1.2 Ingestion Exposure Pathway Emergency Planning Zone

The ingestion exposure pathway EPZ for radiological and nonradiological incidents involving Hanford Site facilities corresponds to the 50-mile (80-kilometer) EPZ for Energy Northwest (Columbia Generating Station). The principal exposure from this pathway would be from ingestion of contaminated water or foods such as milk, fresh vegetables, or aquatic foodstuffs. Facility, onsite, and offsite populations may be subject to exposure through the ingestion exposure pathway. The ingestion exposure EPZ is shown on Figure 7-2.

Offsite protective actions within the ingestion exposure pathway EPZ are the responsibility of the counties and the states. The states of Washington and Oregon are responsible for developing and applying derived intervention levels for implementation of protective actions within the ingestion planning zone.

These intervention levels are based on Food and Drug Administration (FDA) guidelines and are described in respective state procedures. The intervention levels are stated in terms of concentrations of radioactivity on the ground, in the soil, and in vegetation, milk, and water, which guide emergency responders in implementation of interdiction of foodstuffs to preclude exceeding appropriate PAGs.

7.2 PROTECTIVE ACTIONS

Protective actions are those actions taken to preclude or reduce the exposure of individuals to hazardous materials following an accidental release at the Hanford Site.

Protective actions shall be predetermined for onsite personnel and the public and shall include:

- methods for controlling, monitoring, and maintaining records of personnel exposures to hazardous materials (radiological and nonradiological);
- plans for timely sheltering and/or evacuation of workers;
- methods for controlling access to contaminated areas and for decontaminating personnel or equipment exiting the area;
- actions to be taken to increase the effectiveness of protective actions (i.e., heating, ventilation, and air conditioning shutdown during sheltering;
- methods for providing timely protective action recommendations, such as sheltering, evacuation, relocation, and food control, to appropriate offsite agencies;
- PAGs and ERPGs, prepared in conformance with DOE-approved guidance applicable to the actual or potential release of hazardous materials to the environment, for use in protective action decision making; and
- the administration of medications.

7.2.1 Protective Action Guides

PAGs are used to determine the appropriate PAR. The RL directs the use of the PAGs adopted by the states of Washington and Oregon, which are based on the PAGs published in the EPA 400 manual, Manual of Protective Action Guides and Protective Actions For Nuclear Incidents (EPA 1992). These PAGs are intended to apply to projected doses from exposures

from airborne releases of radioactive materials and subsequent depositions during the early, intermediate, and late phases of an accident. The pathways considered include external gamma and beta dose from direct exposure to airborne materials and from deposited material, and the committed dose to internal organs from inhalation of radioactive material.

The projected dose values for initiating protective actions (evacuation or sheltering) specified by the states of Washington and Oregon is 1 rem total effective dose equivalent, where the projected dose represents the sum of the effective dose equivalent resulting from exposure to external sources and the committed effective dose equivalent from all significant inhalation pathways during the early phase. The PAG values for committed dose equivalent to the thyroid and the skin are 5 and 50 times larger, respectively.

The EPA PAGs are stated in terms of committed dose. Dose incurred prior to initiation of protective action (and after the early phase of an event) normally are not included when considering whether or not to take protective actions. In other words, it is intended that the PAG values be compared to the dose that can be avoided by taking protective actions.

The PAG acronym used in this plan shall be interpreted to mean where the total effective dose equivalent of 1 rem to standard man is the sum of the effective dose equivalent from exposure to external sources and the committed effective dose equivalent from inhalation during the early phase.

Response levels corresponding to these PAGs shall be derived for the specific radionuclides, foodstuffs, and animal feeds of interest according to the FDA recommendations.

7.2.2 Emergency Response Planning Guidelines for Nonradiological Releases

The Hanford Site has adopted the ERPGs developed and approved by the American Industrial Hygienists Association (AIHA). The ERPGs shall be used to determine the appropriate emergency class for exposures to nonradiological releases. The Temporary Emergency Exposure Limit (TEEL) values developed by the Chemical Exposures Working Group of the DOE Subcommittee on Consequence Assessment and Protective Actions (SCAPA) are used for chemicals that do not have ERPG values. Within the ERPG system, the three values are defined below for each material.

7.2.2.1 Emergency Response Planning Guidelines 1 (ERPG-1). The maximum airborne concentration below which it is believed that nearly all individuals could be exposed for up to one hour without experiencing other than mild transient adverse health effects or perceiving a clearly defined objectionable odor.

7.2.2.2 Emergency Response Planning Guidelines 2 (ERPG-2). The maximum airborne concentration below which it is believed that nearly all individuals could be exposed for up to one hour without experiencing or developing irreversible or other serious health effects or symptoms that could impair their abilities to take protective action.

7.2.2.3 Emergency Response Planning Guidelines 3 (ERPG-3). The maximum airborne concentration below which it is believed that nearly all individuals could be exposed for up to one hour without experiencing or developing life-threatening health effects.

For purposes of applying the DOE O 151.1 Operational Emergency classification definitions, the terms ERPG and appropriate ERPG exposure levels shall be interpreted to mean a 15-minute time weighted average concentration of the substance in air that equals or exceeds the published ERPG-2 values, or its alternative value, for that substance.

For the purpose of onsite protective actions in response to nonradiological releases, the protective actions prescribed in the 1996 North American Emergency Response Guidebook shall be implemented as applicable.

7.2.3 Onsite Protective Actions

7.2.3.1 Hanford Emergency Operations Center. The Hanford EOC emergency procedures shall detail response actions to be taken in order to prevent or reduce exposures.

These procedures shall include provisions for:

- emergency communications to site personnel;
- decontamination of personnel and equipment, including those evacuated from the site, as appropriate;
- determination of the area surrounding the affected facility; and
- area or site evacuation planning.

7.2.3.2 Facilities.

7.2.3.2.1 Administrative Facilities. Administrative facilities shall maintain an emergency response capability that enables them to implement appropriate protective actions when ordered and to respond to standard facility emergencies (e.g., fires). These capabilities shall include provisions for:

- facility take cover to include shutdown, when appropriate, of heating, ventilation, and air-conditioning systems;
- facility evacuation including persons with permanent or temporary disabilities and transient personnel (i.e., persons not normally assigned to the facility);
- emergency communications to facility personnel;
- identification of potentially exposed personnel and ensuring they receive appropriate follow-up evaluation;

- predetermined facility evacuation routes, staging areas, and transportation in the event of an area or site evacuation; and
- personnel accountability per subsection 7.2.3.4.

Each employee is responsible for his/her own health and safety and for taking appropriate actions in accordance with emergency signals and/or instructions.

7.2.3.2.2 Low-hazards and Hazardous Facilities. Site contractor emergency procedures for low-hazards and hazardous facilities shall provide for the immediate actions to be taken to prevent or reduce exposures. These procedures, which are implemented by the BED/BW or IC, shall include provisions for:

- facility take cover to include shutdown, when appropriate, of heating, ventilation, and air-conditioning systems;
- facility evacuation including persons with permanent or temporary disabilities and transient personnel (i.e., persons not normally assigned to the facility);
- ensuring that facility emergency response personnel are equipped with adequate dosimetry equipment to allow for the accurate evaluation of their exposures;
- controlling and monitoring radiation and hazardous material exposures to facility emergency personnel as low as reasonably achievable (ALARA);
- emergency communications to facility personnel;
- informing the POC whenever facility take cover or evacuation sirens are activated;
- shutdown of operations or other operating actions;
- identification of essential personnel per subsection 7.2.3.2.4;
- identification of potentially exposed personnel and ensuring they receive appropriate follow-up evaluation;
- predetermined facility evacuation routes, staging areas, and transportation in the event of an area or site evacuation;
- protective equipment, monitoring, and decontamination capabilities for hazardous materials present at the facility;
- access control; and
- personnel accountability per subsection 7.2.3.4.

Each employee is responsible for his/her own health and safety and for taking appropriate actions in accordance with emergency signals and/or instructions.

7.2.3.2.3 Lockdown. Lockdown is a security term and is not an action designed to protect personnel. The intent of a lockdown is to enable security forces to better protect special nuclear materials in the event that a security barrier has been compromised. Currently, implementation of a lockdown is only applicable to the Plutonium Finishing Plant complex. Lockdown does not preclude implementation of protective actions. Protective actions during lockdown activities shall be coordinated between the BED and security forces. If the take cover alarm sounds during a lockdown, all personnel, including security personnel without proper personal protective equipment, will move to an indoor location and a security perimeter will be established.

7.2.3.2.4 Essential Personnel. Those designated by the facility management or site contractor as the minimum number of personnel who provide necessary services or support to maintain facilities and/or equipment in a safe shutdown or operational mode. Minimum staff as delineated in a facility safety analysis report or authorization basis may be considered essential personnel.

7.2.3.2.5 Long Term/Total Facility Evacuation. Emergencies on the Hanford Site may result in long-term and total evacuation of facilities. Low-hazards and hazardous facilities shall consider preplanning for long-term and total evacuation. If the facility determines that preplanning is necessary, those actions identified shall be integrated into the appropriate facility plans and/or procedures.

7.2.3.3 Remote Locations. Site contractors shall ensure processes are established to effectively communicate protective actions to personnel assigned to work in remote locations (e.g., personnel in vehicles or at locations without alarm/siren capabilities).

7.2.3.4 Personnel Accountability. Each facility on the Hanford Site shall provide for an evacuation accountability system commensurate with the hazards associated with the facility. The accountability shall be conducted immediately after emergency evacuation has been completed to ensure that all employees and transient personnel (i.e., persons not normally assigned to the facility) are properly accounted for.

7.2.3.5 Access Control. During an emergency, access will be controlled to impacted areas. Procedures shall be maintained to allow emergency personnel access to controlled areas as necessary. Access to the ICP or event scene requires the approval of the IC. Site contractors shall maintain access control procedures that include logging entries, providing dose assessments, and maintaining exposure records for all emergency workers.

7.2.3.6 Area or Site Take Cover. Emergency procedures/checklists shall be maintained by Hanford Patrol and RL/ORP to provide instructions for implementing an area or site take cover. These procedures/checklists shall include, as a minimum, criteria for the implementation, notification, and termination of an area or site take cover. Hanford Patrol shall be responsible for implementing initial take cover protective actions until the Hanford EOC is operational.

7.2.3.7 Area or Site Evacuation. Emergency procedures/checklists shall be maintained by Hanford Patrol and RL/ORP to provide instructions for implementing an area or site emergency evacuation. These procedures/checklists shall include, as a minimum, criteria for establishing an evacuation plan, determining the evacuation routes (primary and alternate), notifying facilities, and coordinating and conducting the actual evacuation. Hanford Patrol shall be responsible for implementing initial evacuation protective actions until the Hanford EOC is operational.

Evacuation routes for the Hanford Site are shown in Figure 7-3. Specific routes will be determined at the time of the event based on event magnitude, location, and meteorology. Private and government vehicles are available to provide transportation in the event of an emergency evacuation. Periodic drills and exercises are performed to ensure that an adequate employee-to-vehicle ratio is maintained to provide a timely and safe evacuation of personnel.

7.2.4 Offsite Protective Actions

Initial PARs appropriate for each emergency classification have been predetermined by RL and adjacent counties. These initial, preplanned PARs, as indicated by the event classification and location, shall be included in the initial notification to offsite agencies. The determination for the need for additional PARs shall be based on consequence assessments that indicate when a PAG or ERPG value may be exceeded at the Hanford Site boundary. RL/ORP notifications to the state and the counties adjacent to the site are delineated in subsection 5.1.1.2.1. The notification shall include PARs as appropriate.

Immediate protective actions decisions within the plume exposure pathway are the responsibility of the appropriate county. Protective action decisions by offsite authorities within the plume EPZ may include access control, sheltering, and evacuation.

Protective action decision notification to populations within the plume EPZ is the responsibility of the counties and is primarily provided using the Emergency Alert System (EAS). Benton, Franklin, and Grant County residents within the radiological plume EPZs receive the EAS messages via tone alert radios in their homes. Persons on or along the Columbia River are alerted by sirens or boat patrols. County emergency plans and procedures address protective action decisions, public warning, evacuation routes, and assistance centers.

Protective action decisions for the ingestion exposure EPZ are the responsibility of the state. The Hanford EOC shall provide the states with hazards assessment data necessary to identify areas where persons must be relocated or where food control is necessary. The states will coordinate implementation of the protective action with the impacted counties.

Notification to populations with the ingestion EPZ shall be accomplished by affected counties and the states using the EAS, as appropriate, and news media reports. State and county emergency workers shall follow protective guidance as established by the states.

7.2.5 Protective Equipment and Supplies

Protective responses for minimizing radiological exposure and contamination include the use of protective clothing and respiratory equipment. As applicable, each site contractor shall develop procedures to identify the location, issuance and use of emergency equipment.

Additionally, HEHF shall be responsible for obtaining and approving the use of a thyroid blocking agent, such as potassium iodide, which may be used by Hanford emergency workers in the event of a release of radioiodine from Energy Northwest's Columbia Generating Station. Each site employer shall determine their need for the use of a thyroid blocking agent and, as applicable in coordination with the Site Medical Director, develop procedures for acquiring and administration of the agent during Energy Northwest events involving the need for radioiodine protection.

7.3 REENTRY

Reentry is the act of reentering an evacuated area for the purpose of performing emergency activities or to assess facility damage for the purpose of determining if the emergency can be terminated and/or for determining the extent of required recovery activities. Reentry can be performed at any time before termination of the emergency and during recovery activities.

Prior to event termination, the BED and IC shall be responsible for determining appropriate protective measures for personnel reentering the event facility or area and for authorizing reentry. Reentry planning shall include contingency planning to ensure the safety of reentry personnel, such as planning for the rescue of reentry teams. All individuals involved in reentry shall receive a hazards/safety briefing prior to emergency response activities consistent with Federal, state, and local laws or regulations.

The event contractor will determine the accessibility of the site areas during and after the emergency and evaluate the advisability of reentry operations as required. Current operating records and other essential information for evaluating the emergency may be used in making these decisions.

During recovery, the Onsite Recovery Manager is responsible for reentry authorization.

7.3.1 Reentry Exposure Considerations

The means shall exist for estimating exposure to hazardous materials (radiological and nonradiological) and for protecting workers and the general public from exposure during reentry and recovery activities.

The guiding principle is to minimize the risk of injury to those persons participating in the rescue and recovery activities; however, this principle must be balanced against the immediate objective of retrieving a deceased victim, protecting property, saving lives, or mitigating a secondary event.

Individuals responsible for authorizing reentry must carefully examine any proposed actions involving further hazardous or radioactive material exposure by weighing the risks of exposure, actual or potential, against its benefits. Exposure probability, the biological consequences related to dose, and the number of people exposed are the essential elements to be evaluated in making a risk determination.

Emergency situations involving the saving of lives require separate criteria than those actions required to retrieve deceased victims or to save property. The limits for radiation exposure for reentry activities shall be in accordance with contractor-specific radiological protection program documentation, which is based on 10 CFR 835.1301 requirements.

An individual whose occupational dose has exceeded the numerical value of any of the limits specified in contractor-specific radiological protection program documentation as a result of an authorized emergency exposure may be permitted to return to work in radiological areas during the current year providing that requirements of 10 CFR 835.1301 are met.

Limits for nonradiological hazardous materials will be established using the lowest limits of:

- OSHA permissible exposure limits;
- American Conference of Governmental Industrial Hygienists Threshold Limit Values; and
- specific Washington State Department of Labor and Industries permissible exposure limits mandated by RL/ORP (e.g., asbestos).

7.3.2 Termination of Protective Actions

The relaxation or lifting of protective actions generally shall be based on facility conditions and consequence assessments. The Policy Team will decide when onsite protective actions can be modified, after consultation with the SMT. The Policy Team will provide recommendations to affected counties and states for the relaxation of offsite emergency protective actions (i.e., evacuation or sheltering within the plume EPZ). The states shall be responsible for decisions on relaxation of ingestion protective actions, based on data provided by the UDAC.

8.0 EMERGENCY MEDICAL SUPPORT

This section describes the emergency medical responsibilities and actions for injuries that may occur on the Hanford Site and illustrates the interfaces that exist between Hanford and offsite medical facilities.

RL/ORP shall ensure that provisions exist on the Hanford Site for emergency medical aid, triage, and decontamination, and the planning for mass casualty situations. Because of the potential for injuries to be accompanied by radiological contamination, medical support shall include documented arrangements with offsite medical facilities to accept and treat contaminated, injured personnel for emergency medical services not provided on the site. A synopsis of the MOUs with offsite medical facilities can be found in Table 3-1.

8.1 EMERGENCY MEDICAL RESPONSIBILITIES

Medical support shall be planned in advance in accordance with DOE O 440.1A (or replacement directive) for workers contaminated by hazardous material. Hanford Site organizations are authorized by RL/ORP to provide the medical response to onsite emergencies. Their roles and responsibilities are outlined in the following subsections. Specific procedures related to each major organization involved in site emergencies are located within documentation maintained by the respective organization.

A Hanford Site medical emergency is defined as any medical incident that results in the activation of the 911 emergency response system.

A mass casualty incident is defined as a medical incident that initially overwhelms the ability of the responders and/or medical care facilities to initially provide normal levels of care to injured victims.

8.1.1 Hanford Fire Department

The Hanford Fire Department, which includes emergency medical technicians and paramedics, is the lead agency for responding to medical emergencies. In this capacity, the Hanford Fire Department is responsible for:

- operating according to the Mid-Columbia Emergency Medical Services and Trauma Council and their medical program director;

- meeting the requirements outlined in the *Hanford Fire Department Emergency Medical Services Program Plan* and the patient care guidelines of *Mid-Columbia Guidelines for Patient Care.* These requirements include, but are not limited to:
  - patient care;
  - triage at the site;
  - ambulance transport of injured or ill employees to medical facilities and, if available, arrange for air transport directly from the site in extreme medical situations; and
  - notification and activation of mutual aid assistance that may be needed during the emergency or who require notifications
- implementing the Hanford Incident Command System to manage and control major medical incidents;
- requesting assistance from HEHF when additional medical support is needed; and
- coordinating a temporary morgue for Hanford fatalities.

8.1.2 Hanford Environmental Health Foundation

The primary roles of the HEHF during onsite medical emergencies are to activate and operate the Emergency Decontamination Facility (EDF) and to provide support to the IC as requested. In this capacity, HEHF is responsible for:

- directing medical treatment activities of patients taken to the EDF;
- providing medical support, treatment, and facilities (e.g., on-call physicians, physician assistants, occupational health nurses, behavioral health clinicians, industrial hygienists, and other related medical support staff) for emergencies in support to the IC;
- providing support for the medical treatment of employees who have received internal or external contamination from radionuclides;
- maintaining an appropriate supply of pharmaceuticals for use in Hanford emergencies;
- coordinating the site medical activities with the medical program director of Mid-Columbia Emergency Medical Services and Trauma, local hospitals, and other medical organizations as appropriate; and

- managing and providing staffing for the Health Care Centers (HCCs) and the EDF.

8.1.3 Hanford Patrol

The Patrol Operations Center operates the site 911 emergency response system. As part of the medical response, the POC is responsible for:

- contacting the Hanford Fire Department when a request for fire and/or emergency medical services has been received;
- performing emergency medical dispatch activities according to the guidelines of the South Central Emergency Medical Services and Trauma Care Council and those in *Criteria Based Dispatch*;
- contacting the HEHF on-call provider for medical incidents involving radiological or chemical exposures; and
- providing information regarding onsite medical emergencies to appropriate contractor organizations.

8.1.4 Hanford Internal and External Dosimetry and Whole Body Counting Programs

During medical emergencies that involve internal or external radionuclide contamination, these programs provide support (e.g., *in vivo* radio assays, bioassay program, exposure evaluators) to HEHF and other medical personnel to help determine the appropriate medical treatment.

8.1.5 Other Hanford Site Contractors

Site contractor health physics and radiation protection technologists and/or industrial hygienists provide decontamination for injuries, as appropriate. Hanford Site contractors also provide support for transportation, security, notifications, communications, etc., as described in respective subsections of section 2.0.

8.1.6 Local Hospitals

Through memorandums of understanding with RL, Kadlec Medical Center in Richland, Kennewick General Hospital, and Our Lady of Lourdes Health Center in Pasco provide emergency health care for patients delivered by the Hanford Fire Department.

This care includes:

- accepting patients transported by Hanford Fire Department as the result of Hanford emergencies;
- assuming responsibility for patient care once patient arrives at the hospital; and
- coordinating with Mid-Columbia Emergency Medical Services, Tri-City Trauma Services, and other agencies for support and air transport as needed.

A copy of each MOU is provided in Appendix B.

8.2 MEDICAL EMERGENCY FACILITIES AND EQUIPMENT

8.2.1 Health Care Centers

The HCCs are located at 3080 George Washington Way in Richland and in the 200 West Area. HEHF operates the HCCs to treat patients with occupational injuries or illnesses that do not require hospitalization. The HCCs are staffed by occupational health nurses, physicians, physician assistants, and medical technologists. Initial treatment for minor medical emergencies may be provided at these centers before transport to a local hospital.

8.2.2 Emergency Decontamination Facility

The EDF, located north of Kadlec Medical Center in Richland, is operated for RL by the HEHF. The EDF is an unoccupied, hardened facility designed to be used for patient decontamination, treatment of internal contamination, and minor medical treatment for persons who are radiologically contaminated and have minor injuries.

8.2.3 Site Decontamination Equipment

Decontamination equipment is available at a number of locations on the Hanford Site. Equipment or facilities range from eye washes, showers, and skin decontamination kits, to a mobile hazardous materials decontamination unit operated by the Hanford Fire Department.

8.2.4 Medical Emergency Equipment

Equipment for cardiopulmonary resuscitation, cardiac defibrillation, and advanced cardiac life support; supplies and equipment for the management of trauma; and equipment to support rescue and/or extrication of casualties is maintained by the Hanford Fire Department. Supplies for triage are available on board each Hanford Fire Department ambulance.

8.2.5 Medical Emergency Transportation

Ambulances shall be maintained and operated by the Hanford Fire Department. Provisions shall be made for air transportation of contaminated patients to medical facilities for specialized medical treatment in conjunction with the Aviation Safety Committee. Transportation support beyond that provided by the Hanford Fire Department shall be coordinated according to mutual aid and trauma service agreements.

8.2.6 Offsite Medical Facilities

The three local hospitals, Kadlec Medical Center in Richland, Kennewick General Hospital, and Our Lady of Lourdes Health Center in Pasco, provide treatment for emergency patients from the Hanford Site; however, because of proximity, Kadlec Medical Center is the facility most often used by the site. These hospitals have combined to provide Level Three trauma care for the community.

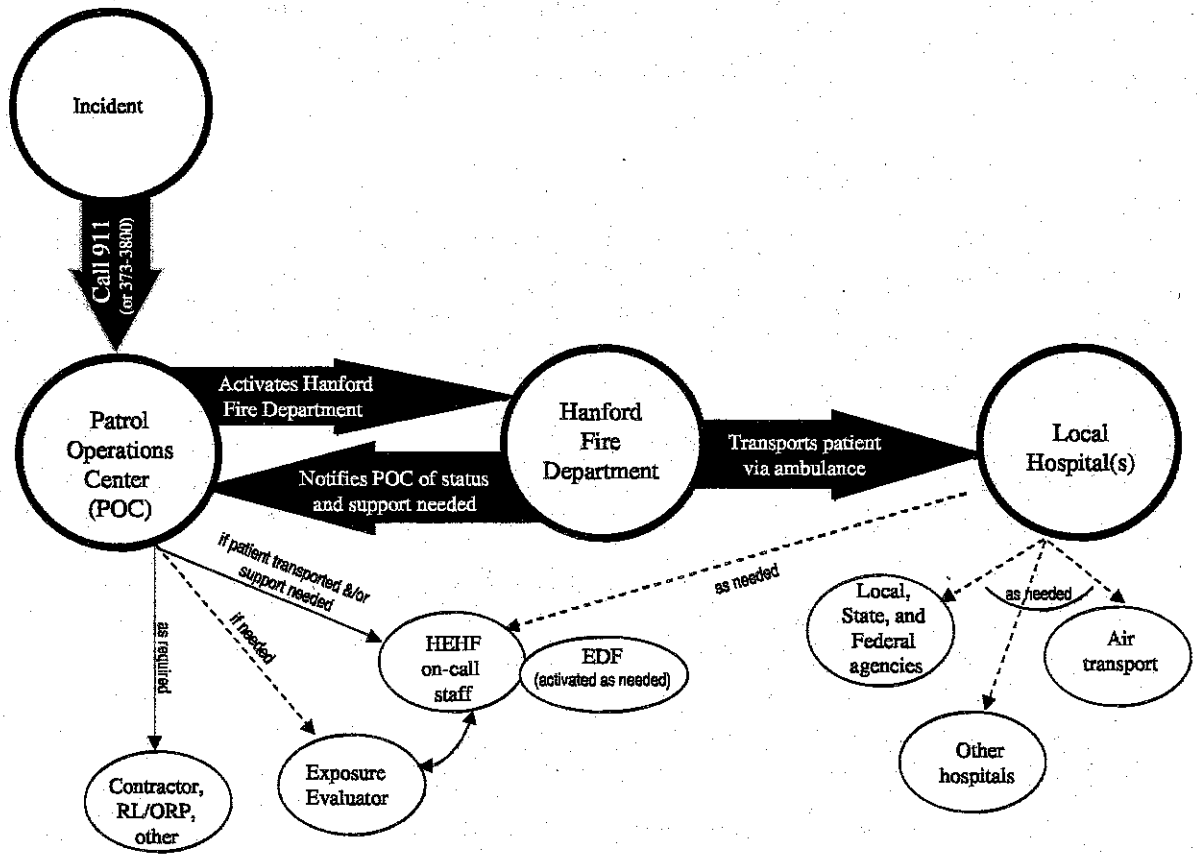
Memorandums of understanding with each hospital are maintained by RL. A copy of each MOU is contained in Appendix B. Other offsite medical facilities may be involved in Hanford medical emergencies through agreements with the local hospitals.

RL shall ensure the provision of training and exercise support related to the services provided to the site. The HEHF shall provide medical expertise on radiological and chemical exposure decontamination and treatment, as requested.

8.3 MEDICAL EMERGENCY COMMUNICATIONS

The communications process during a Hanford medical emergency is illustrated in Figure 8-1.

Figure 8-1. Medical Emergency Response Communications.



9.0 EMERGENCY TERMINATION AND RECOVERY

This section describes the responsibilities for termination and recovery planning and operations. Predetermined criteria for termination of emergencies, assignment and make-up of a recovery organization, and site recovery plan development shall be maintained in DOE-0223, *Emergency Plan Implementing Procedures*. Recovery shall include notifications associated with termination of an emergency and establishment of criteria for resumption of normal operations.

9.1 TERMINATION OF THE EMERGENCY

In general, response activities are terminated when the situation has been stabilized. At this point, potential threats to workers, the public, and the environment have been characterized, conditions no longer meet established emergency categorization criteria, and it appears unlikely that conditions will deteriorate. Once the emergency has been declared terminated, activities may then focus on recovery.

It is the function of the BED/BW/IC to declare the termination of an event after applicable criterion has been met where the DOE Hanford EOC has not been activated.

In an event where the DOE Hanford EOC has been activated, termination occurs after applicable criteria have been met and concurrence between the event contractor and RL/ORP has been obtained. The BED, IC, and Site Emergency Director must confer and agree that termination can be declared. The Site Emergency Director shall then communicate the information to the RL/ORP Emergency Manager.

The RL/ORP Emergency Manager will coordinate the termination recommendation with the state and county representatives and make the official emergency termination declaration. The Policy Team will proceed with official notification to offsite emergency agencies that the emergency is terminated and the recovery phase has been initiated. Notification will be done through the DOE Hanford EOC emergency communications network. The criteria for the termination decision and the basis for relaxing applicable offsite PARs will be included in the notification as appropriate. Press releases will be prepared and disseminated through the JIC.

9.2 RECOVERY PLANNING

Upon termination of the emergency event, onsite and offsite emergency organizations must develop and implement plans necessary to return the affected facility and surrounding areas to normal. Restart of operations is performed in accordance with the approved plans. RL/ORP shall direct recovery planning for Hanford Site facilities and support the offsite recovery efforts of Federal, state, and local agencies.

Recovery planning shall include dissemination of information to offsite agencies regarding the emergency and possible relaxation of public protective actions; planning for decontamination actions; establishment of a recovery organization; development of reporting requirements; and establishment of criteria for resumption of normal operations.

The RL Manager shall determine the type of accident investigation necessary and ensure that actions are performed in accordance with DOE O 225.1A, *Accident Investigations* (DOE 1997). In addition, the RL/ORP Emergency Manager, with assistance from the event contractor, shall provide for investigation of emergency root cause(s) and corrective action(s) to prevent recurrence in accordance with DOE requirements (e.g., see DOE O 225.1A and DOE 5480. 19) and RLIP 5484.1A, *Environmental Protection, Safety, and Health Protection Information Reporting Requirements* (DOE/RLIP 1981).

9.2.1 Planning and Operations for Onsite Recovery

The RL/ORP Emergency Manager shall designate an RL/ORP Recovery Manager. This manager will assess the extent of recovery actions necessary and determine the organization needed to implement recovery operations.

The RL/ORP recovery organization shall be comprised of two groups: a partial staffing of the DOE Hanford EOC and an Onsite Recovery Team.

9.2.1.1 Partial Staffing of the DOE Hanford EOC. The Site Emergency Director is responsible for determining the partial staffing of the DOE Hanford EOC. The partial staffing should consist of sufficient members to perform functions as applicable to the situation. Responsibilities include:

- coordinating personnel safety and health recovery actions such as stress debrief and case management activities;
- discussing and coordinating recovery issues with offsite agencies;
- coordinating response to requests for offsite assistance;
- providing input to and review of the Site Recovery Plan;
- responding to technical questions from DOE-HQ and offsite authorities;
- reviewing UDAC data and providing late phase onsite PARs to the Onsite Recovery Team for inclusion in Site Recovery Plan;
- reviewing assessment data and recommendations to formulate offsite intermediate and late phase PARs, as requested by the states;
- coordinating press information for release to the public through the JIC or RL Office of Communications;

- reviewing and coordinating employee information releases, including general information and specific information for displaced workers;

- providing information on recovery activities to DOE-HQ, state and county EOCs; and

- making emergency procurement arrangements for offsite assistance or to implement the Site Recovery Plan when directed by the RL/ORP Recovery Manager.

9.2.1.2 Onsite Recovery Team. The RL/ORP Emergency Manager shall appoint an Onsite Recovery Director, who is responsible for appointing members of the Onsite Recovery Team. The Onsite Recovery Team is responsible for the development and implementation of the Site Recovery Plan. The team should consist of sufficient staff to perform the functions as applicable to the situation.

The Onsite Recovery Team consists of the following functions as applicable.

- Recovery Planning: Proposes and evaluates courses of action and address other major aspects of the recovery operation.

- Task Management/Scheduling: Identifies and plans specific tasks for implementation of the Site Recovery Plan. Monitors and coordinates the status of tasks.

- Engineering Support: Provides the support for procedure preparation, data analysis, technical support to the operations staff, and other tasks related to the technical support of recovery. Provides engineering design, materials, and the construction support needed to implement any required modification of plant structures or systems.

- Safety: Assesses the extent of contamination of buildings and systems. Establishes processing and decontamination priorities based on this assessment, performs surveys, releases areas, provides radiological support for maintenance and operations, and maintains radiological and exposure records. Provides for the monitoring of hazardous chemicals. Ensures work is performed in accordance with company safety requirements and procedures.

- Security: Maintains the site in a secure configuration as recovery activities are performed.

- Plant Operations: Routine performance of plant operations functions for the duration of the recovery.

- Operations Support: Supports the recovery efforts in areas such as personnel, communications, transportation, and temporary office space when required. Coordinates logistical support to displaced workers as detailed in the Site Recovery Plan.

The Onsite Recovery Director shall direct development of a detailed Site Recovery Plan. The plan shall outline the Onsite Recovery Organization, objectives, facilities available to the organization, a schedule, disposition of displaced workers, cost estimates, and recovery actions.

The RL/ORP Recovery Manager shall approve the Site Recovery Plan after review by the Onsite Recovery Director, Site Emergency Director, and applicable contractor(s). The Site Recovery Plan can be submitted in phases to allow initial recovery activities to take place during planning.

As recovery activities decrease, the RL/ORP Recovery Manager should reduce the number of personnel involved in recovery activities by combining positions. If minimal activities are taking place, consideration should be made for assigning functions to site organizations as part of normal activities.

9.2.2 Planning and Operations for Offsite Recovery

The states of Washington and Oregon are responsible for determining when the relaxation of protective measures can begin, and will make offsite reentry and recovery decisions. The states shall coordinate recovery activities with the affected counties, who will coordinate local public health actions and disaster assistance. Recovery actions also will be coordinated with RL/ORP.

The major areas of effort for offsite recovery include:

- maintenance of access and traffic control of contaminated areas until cleanup is accomplished;
- imposition of control measures on possibly contaminated food and dairy products until radioactivity or chemical contaminant levels are deemed acceptable or the products are decontaminated or destroyed;
- dissemination of public health advice for individuals with noncommercial sources of food and dairy products;
- direction of decontamination activities, by way of natural radioactive decay, contamination removal, burial, treatment, or dilution;
- determination of radioactivity or chemical contaminant levels by field and laboratory analysis;

- documentation of population doses, individual doses, and environmental radioactivity or chemical contaminant levels; and

- dissemination of public information through press releases and other means.

RL/ORP shall provide representatives to state recovery task forces, as may be established, if determined necessary by the RL/ORP Emergency Manager or RL/ORP Recovery Manager.

A major event at the Hanford Site affecting offsite populations could involve the implementation of the Federal Radiological Emergency Response Plan (FRERP) and the Federal Response Plan. Implementation of these plans would activate several Federal agencies including the FEMA, the EPA, Department of Agriculture, and many other agencies (including DOE) to support state and local relief and recovery efforts. Overall coordination of activities under these plans is the responsibility of FEMA.

For an event involving a DOE-owned facility on the Hanford Site, DOE will become the Lead Federal Agency (LFA). The FRERP details the responsibilities of the LFA which include:

- assessing the emergency and providing notification to the appropriate Federal, state, and local governments;

- providing offsite monitoring, assessment, and PARs;

- providing for the release of public information on the emergency; and

- providing initial support to the state and local governments on recovery monitoring and decontamination activities. The EPA will assume these responsibilities for the long-term after receiving a pledge of support from DOE.

9.2.3 Incompatible Waste

After an event, the BED/BW and/or Onsite Recovery Director and staff shall provide for treating, storing, or disposing of recovered waste, contaminated soil or surface water, or any other material that results from a release, fire, or explosion at the facility. The BED/BW and/or Onsite Recovery Director and staff shall further ensure that no waste that might be incompatible with the released material is treated, stored, and/or disposed of until cleanup is completed.

Cleanup activities shall be performed by trained site personnel. In order to meet 29 CFR 1910.120(q)(11) criteria, such personnel shall have completed the training requirements of 29 CFR 1910.38(a), 29 CFR 1910.134, 29 CFR 1910.1200, and other appropriate safety and health training made necessary by the tasks that they are expected to perform (e.g., personnel protective equipment, decontamination procedures). In addition, all equipment to be used in the performance of the clean-up work shall be in serviceable condition and shall have been inspected prior to use.

Activities may include, but are not limited to:

- neutralization of corrosive spills;
- chemical treatment of reactive materials to reduce hazards;
- overpacking or transfer of contents from leaking containers;
- use of sorbents to contain and/or absorb leaking liquids for containerization and disposal;
- decontamination of solid surfaces impacted by released material, e.g., intact containers, equipment, floors, containment systems, etc.;
- disposal of contaminated porous materials that cannot be decontaminated and any contaminated soil;
- containerization and sampling of recovered materials for classification and determination of proper disposal technique; and
- follow up sampling of decontaminated surfaces to determine adequacy of cleanup techniques as appropriate.

Waste from cleanup activities shall be designated and managed as newly generated waste. A field check for compatibility before storage shall be performed, as necessary, to ensure that incompatible wastes are not placed in the same container and containers of waste are placed in storage areas appropriate for their compatibility class.

If it is determined that incompatibility of waste was a factor in the incident, the BED/BW and/or Onsite Recovery Director and staff ensures that the cause is corrected. Examples would be modification of an incompatibility chart or increased scrutiny of waste from a generating unit when incorrectly designated waste caused or contributed to an incident.

An alternate Hanford EOC has been established at 2420 Stevens Center Boulevard, Richland, Washington. The criteria for abandonment of the primary Hanford EOC will be when radiation monitoring at the Hanford EOC shows whole body dose rates (beta plus gamma) exceeding 0.1 rem/hr for greater than 1 hour or the Hanford EOC becomes uninhabitable for any other reason (e.g., earthquake or a security breach).

The primary Hanford EOC may be reactivated following abandonment if the radiation dose rates decrease or other conditions change to the point where, in the opinion of the RL/ORP Emergency Manager, it is safe to reoccupy the primary Hanford EOC.

Procedures for the operation of the alternate Hanford EOC are found in the *Emergency Plan Implementing Procedures* (DOE-0223).

11.1.2 Hanford Patrol Operations Center

The POC is located in the 2721-E Building in the 200 East Area. The POC monitors the emergency response number (911), business number (373-3800), and acts as the single point-of-contact for RL/ORP.

The POC notifies and/or dispatches the:

- Hanford Fire Department, including ambulance and the Hazardous Material Response Team;
- Hanford Patrol;
- HEHF on-call provider;
- Transportation on-call representative;
- EDO; and
- Benton County Sheriff personnel assigned to Hanford Site.

The POC also is responsible for alarm monitoring; activation of crash alarm telephone systems and sirens; and assisting in dispatch and radio communications for emergency responders.

11.1.3 Occurrence Notification Center

The ONC, located in the basement of the Federal Building, is a 24-hour operational facility equipped to communicate information regarding occurrences at or affecting the Hanford Site to RL/ORP and site contractor personnel and to state and local emergency management organizations.

Specific responsibilities of the ONC includes:

- activating the Hanford Site ERO via the automated ENS;

- providing initial notifications via the automated ENS to Grant County residents within the Hanford EPZs; and

- providing notifications to the DOE-HQ EOC and state and local emergency management agencies.

ONC notification responsibilities are covered further in applicable subsections of section 5.0. Specific operational desk instructions shall be maintained by the ONC.

11.1.4 Medical Emergency Facilities

Capabilities for medical aid, triage, and personnel decontamination shall be available onsite. Emergency Medical Support is described further in section 8.0.

Medical emergency facilities include the following.

- Health Care Centers: HCCs are located at 3080 George Washington Way in Richland and in the 200 West Area. HCCs are occupied on day shift Monday through Friday, excluding holidays, and contain sufficient medical supplies to treat patients with occupational illnesses or injuries who do not require hospitalization. Ambulance service is provided by the Hanford Fire Department.

- Site Decontamination Facilities: Personnel decontamination sites are located in several locations in the 100, 200, 300, and 400 Areas.

- Emergency Decontamination Facility: The EDF is located north of Kadlec Medical Center (Richland, Washington). The EDF is a dedicated, hardened facility designed to accommodate nonserious or nonlife-threatening radiologically contaminated injuries.

Agreements shall be in place between RL and local hospitals for backup medical treatment. A copy of each MOU is contained in Appendix B.

11.1.5 Protective Clothing Cleaning

Interstate Nuclear Services provides laundry services for the Hanford Site. The laundry facility is located in the Science and Technology Park just south of the site. The laundry manages protective clothing, including cleaning both radioactively contaminated laundry and noncontaminated laundry.

11.1.6 State and County Emergency Operations Centers

The Benton County EOC is located at 651 Truman Avenue, Richland, Washington.

The Franklin County EOC is located at 502 Boeing Street, Pasco, Washington.

The Grant County EOC is located at 6500 32nd Avenue NE, Moses Lake, Washington.

The Washington State EOC is located in the office of the Washington State Emergency Management Division (Building 20) at Camp Murray in Tacoma, Washington.

The Oregon State EOC is in the office of the Oregon Emergency Management Division, located at 595 Cottage Street NE, Salem, Oregon.

11.2 EMERGENCY EQUIPMENT

Adequate personal protective equipment and other equipment and supplies shall be available and operable to meet emergency preparedness requirements and the needs determined by the results of the hazards assessment, if required, and for emergency response personnel to carry out their respective duties and responsibilities.

Emergency and backup equipment (including monitoring devices) shall be located in readily accessible areas away from the scene of the potential accident. Equipment shall be available, as appropriate, to provide functions for the potential, credible emergencies such as:

- emergency dosimetry;
- personnel protection;
- radiation control monitoring instrumentation;
- monitoring of personnel, facilities, and the environment onsite and offsite;
- emergency medical treatment onsite;
- meteorological evaluation;
- handling of personnel contaminated with radioactive or toxic materials, and fatalities;
- supplying emergency power, water, and sanitation;
- emergency transportation for personnel evacuation;

- movement of earth or heavy loads; and
- emergency communications, including portable and secure communications equipment, as required.

To ensure equipment reliability, emergency equipment should, to the extent practical, be the same equipment used for routine operations. RL/ORP and the site contractors maintain a variety of light and heavy equipment and supplies that could be diverted from routine use to emergency use, if needed.

All equipment that could be used in an emergency response is listed in the RL Property System database, which can be quickly accessed to determine the current status of each piece of equipment. This system is maintained and operated by the Resource Allocation and Management group of the operating contractor.

As applicable, the BED/BW/IC and/or the Onsite Recovery Manager and staff shall ensure that all equipment is cleaned and fit for its intended use before operations are resumed. This may include actions to ensure that depleted stocks of neutralizing and absorbing materials are replenished, self-contained breathing apparatus are cleaned and refilled, fire extinguishers are recharged or replaced, and protective clothing is cleaned (or disposed of) and restocked.

11.2.1 Assessment Equipment

Emergency equipment shall be available, as appropriate, to allow an early and reliable determination of the seriousness of an accident. The equipment for both emergency and continuing assessment of the facilities and environment at the Hanford Site consists of dosimeters, criticality detectors and alarms, and effluent and environmental monitoring equipment. Each building having a potential for a nuclear accident has a list of dosimeters, criticality detectors, and alarms, as well as a drawing showing their location in relation to prominent facility features.

Arrangements are in place with the Aerial Measuring System (DOE Nevada Operations Office) for aerial surveillance and monitoring through UDAC.

11.2.1.1 Nuclear Accident Dosimeter. The Hanford Site nuclear accident dosimeter is a stationary device that provides neutron and gamma dose information following a criticality or high-level radiation event. The dosimeter satisfies the requirements for an emergency dosimetry system by providing a system capable of determining the:

- neutron dose (in rads);
- photon dose in the presence of neutrons (from 10 to 10,000 rads); and
- neutron flux in each of five energy intervals, which permits calculation of the neutron dose equivalent in rem.

These dosimeters are recovered only when directed by RL. PNNL maintains a current list of nuclear accident dosimeter locations in PNL-MA-583 (PNL 1994). Instructions for recovery of these dosimeters are contained in site contractor emergency procedures.

11.2.1.2 Emergency Instrumentation. Under emergency conditions, many needed supplies and equipment would be drawn from the instrument and equipment pool used for normal operations at the Hanford Site. This ensures that multiple sources of supplies are available and that the equipment is calibrated, maintained, and ready for use by personnel involved in controlling the emergency.

11.2.2 Fire Control Equipment

Buildings shall be equipped with fire control equipment, such as automatic fire-suppression (sprinkler) systems and portable fire extinguishers, in accordance with National Fire Protection Association safety codes. Where equipped, portable fire extinguishers must comply with the National Fire Code standards and be inspected monthly with inspections recorded on tags attached to each extinguisher.

11.2.3 Personal Protective Equipment

Buildings shall have safety showers and eyewash stations, located as necessary, in accordance with applicable regulations. Drainage from these stations shall be contained. In addition to these stations, portable eyewash equipment shall be maintained at protective storage areas as necessary. The eyewash and shower stations shall be inspected regularly.

Protective clothing and respiratory protective equipment shall be maintained for use during both routine and emergency operations. Equipment not provided by the Hanford Fire Department shall be identified in low-hazards and hazardous facility documentation.

11.2.4 Spill Control and Contamination Supplies

Spill control and contamination supplies shall be located in facilities as necessary. Supplies may include sorbent materials for organic or inorganic materials; diatomaceous earth for liquid waste spills; neutralizing sorbents for response to acid or caustic spills; containers and salvage containers (e.g., overpacks); and brooms, shovels, and miscellaneous spill response supplies.

11.2.5 Decontamination Operation Equipment

The T Plant Complex in the 200 West Area provides equipment decontamination services for the Hanford Site.

11.2.6 Evacuation Vehicles

The BEDs shall ensure that vehicles are available to move all personnel from their facility. This may be accomplished by a combination of government-owned and private vehicles. If insufficient vehicles are available, the BED can coordinate the response of additional transportation assets through the Hanford EOC.

11.2.7 Hanford Patrol

Hanford Patrol maintains a large inventory of security response equipment, including transportation, weaponry, protective equipment, and communication.

11.2.8 Hanford Fire Department

The Hanford Fire Department maintains a large inventory of fire fighting, hazardous material response, and rescue equipment. The Hanford Fire Department also operates the site ambulance service from the various area fire stations. Mutual aid agreements with local fire departments provide additional backup capabilities.

A description of equipment for hazardous material responses available through the Hazardous Materials Response Team is delineated in Appendix C of this plan. Locations of the four fire stations on the Hanford Site are shown in Figure 11-1.

11.3 MAINTENANCE AND TESTING OF ALARM AND COMMUNICATION SYSTEMS

The facility manager or BED shall ensure that preventive maintenance is performed on facility emergency sirens and criticality alarm systems by the responsible maintenance organizations in accordance with the established preventative maintenance procedures.

The FHI Emergency Preparedness organization shall ensure that preventive maintenance is performed on area and river sirens.

Facility sirens, facility criticality alarm systems, and area sirens not heard in offsite, permanently populated areas shall be audibly tested at a predesignated time each month in accordance with contractor preventive maintenance procedures.

Where facility sirens, facility criticality alarm systems, and area sirens may be heard in offsite, permanently populated areas, audible testing shall be conducted on an annual basis and must be coordinated with offsite emergency authorities. Silent testing shall be used if more frequent tests are necessary to assure operability. Site contractors responsible for these sirens will coordinate audible tests and necessary offsite notifications with RL SES.

The site contractor responsible for the facility sirens, facility criticality alarm systems, and area sirens to be tested is responsible to ensure appropriate notification to workers through such means as announcements over the crash alarm telephone system, public address system, and/or e-mail. Sitewide information sources, such as the POC and Hanford telephone operator, should also be notified of any audible facility siren, facility criticality alarm system, or area siren testing.

Communication systems testing shall include:

- monthly testing of area crash alarm telephone systems (100K, 100N, 200 East, 200 West, 300, and 400 Areas) by the responsible site contractor;
- monthly testing of the Hanford EOC radios by the FHI Emergency Preparedness organization; and
- quarterly testing of the ENS by the ONC.

As applicable, the organization(s) responsible for communications with DOE-HQ and offsite agencies shall test communications systems at least annually or as often as needed to ensure that communications systems are operational.

11.4 INVENTORY OF EMERGENCY EQUIPMENT

Contractor emergency equipment shall be inventoried periodically in accordance with site contractor inventory control procedures to ensure availability in the event of an emergency.

A quarterly inventory of emergency equipment in emergency centers shall be conducted and the records of these inventories maintained for one year by the site contractor responsible for emergency center maintenance. An implementing procedure for conducting emergency center inventories shall be maintained and corrected within 30 days of an inventory change.

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12.0 TRAINING AND DRILLS

In addition to training that site personnel receive on their day-to-day functions, a coordinated program of training and drills for developing and/or maintaining specific emergency response capabilities shall be an integral part of the Hanford Site emergency management program.

12.1 GENERAL TRAINING REQUIREMENTS

12.1.1 General Employee Training

Initial training and periodic drills shall be provided to all workers who may be required to take protective actions (e.g., assembly, evacuation) when they are employed, when their expected actions change, or when the facility-specific emergency plan/procedure changes. This may be provided through general employee training and participation in drills or exercises.

Refresher training shall be provided annually to Hanford Site employees who are likely to witness a hazardous material release and who are required to notify proper authorities of the release.

In addition, site personnel are provided information on the specific emergency response documentation of their facility. Information is also provided to each employee, which describes the emergency signals, basic instructions, and the emergency response structure. By telephone, site personnel can hear a recording of the emergency signals. Drills and exercises provide additional training for site personnel on the specific actions of their building.

12.2 HANFORD EMERGENCY RESPONSE ORGANIZATION TRAINING REQUIREMENTS

A formal training program shall be provided for the instruction and qualification of all personnel (i.e., primary and alternate) comprising the Hanford Site ERO to include both initial training and annual refresher training.

Training programs should include a mix of classroom instruction, tabletop exercises or walk-throughs, and drills. In addition, training programs should be systematic and performance based (i.e., based on the analysis of tasks to be performed during an emergency) and developed using performance objectives that place emphasis on team training and facility-specific emergency response scenarios.

Annual refresher training should include lessons learned from past drills and exercises, changes to plans and procedures, and lessons learned from emergencies at DOE and other industrial facilities.

12.2.1 Hanford Emergency Operations Center Staff Training

Site personnel assigned to the Hanford EOC shall receive training prior to assignment to an activation list and at least annually thereafter. Offsite personnel with designated positions in the Hanford EOC receive initial orientation training as requested.

12.2.2 Incident Command Organization Training

Personnel working in assigned roles of the Incident Command Organization shall, as applicable, receive incident command and task-specific training or overview prior to assignment and at least annually thereafter. The training or overview shall include roles, responsibilities, and authorities for the respective position within the Incident Command Organization.

Personnel directing or supervising response actions must be trained for all tasks they assign to be performed and have the same level of qualification for emergency response as the personnel being directed.

Additional training requirements, as applicable, are delineated in the following subsections.

12.2.2.1 Facility/Building Emergency Response Organization Training.

12.2.2.1.1 Administrative Facilities. All designated BWs/BEDs (primary and alternates) shall attend BW/BED training prior to assignment and at least annually thereafter. The training shall include an overview of the Hanford Incident Command System including roles and responsibilities.

Personnel accountability aides and staging area managers (or other contractor-designated names) shall be trained on their respective roles and responsibilities prior to assignment and at least annually thereafter. The annual retraining requirement may be met by participation in a drill or exercise or by classroom training.

12.2.2.1.2 Low-hazards Facilities. All designated BWs/BEDs (primary and alternates) shall attend BW/BED training prior to assignment and at least annually thereafter. The training shall include an overview of the Hanford Incident Command System including roles and responsibilities.

Additionally, the building management, or designee, shall ensure that documented training is provided to the Facility/Building Emergency Response Organization on their respective roles and responsibilities prior to assignment and at least annually thereafter.

12.2.2.1.3 Hazardous Facilities. All designated BEDs (primary and alternates) shall attend BED training prior to assignment and at least annually thereafter.

Additionally, the building management, or designee, shall ensure that documented training is provided to the Facility/Building Emergency Response Organization (including the BED) prior to assignment and at least annually thereafter. The training shall include:

- duties delineated within DOE-0223, *Hanford Emergency Plan Implementing Procedures* and supporting facility-specific emergency response procedures (see Note below);
- an overview of the Hanford Incident Command System including roles and responsibilities; and
- an overview of the facility hazards and hazard control measures specified in accident scenarios such as those contained in authorization basis documentation (e.g., safety analysis report, facility hazards analysis) and supporting emergency response procedures.

NOTE: Some site contractors may implement DOE-0223 actions through contractor-specific emergency management documentation.

Facility/Building Emergency Response Organization personnel must also have appropriate training for specific hazards germane to their assigned emergency response duties. Each site contractor shall evaluate, as applicable, the need for training, and the training level requirements for each emergency response duty. Duties shall be evaluated for required training in areas such as first aid, cardiopulmonary resuscitation (CPR), blood borne pathogen, and SCBA.

12.2.2.2 Site Contractor Emergency Response Personnel Training. Site Contractor Emergency Response Personnel requiring certification/qualification are identified as 911 dispatchers, ICs, firefighters performing defensive or offensive operations in the incident scene hazard area, and/or emergency medical personnel. These staff shall obtain and maintain such certification/qualification.

12.2.2.3 Other Emergency Response Support Personnel Training. Skilled Support Personnel and Specialist Employees are not designated members of the Hanford ERO and, as such, are not required to meet specific Hanford ERO training requirements. However, other safety measures or training are required, as delineated in the following subsections, to ensure that such personnel are protected against hazards that may be present at the event scene.

12.2.2.3.1 Skilled Support Personnel. Site support personnel who are skilled in the operation of certain equipment, such as mechanized earth moving or digging equipment or crane and hoisting equipment, and who are needed temporarily to perform immediate emergency support work that will or may expose them to hazards at the event scene shall be given an initial briefing prior to their participation in any emergency response. The initial briefing shall include instruction in the wearing of appropriate personal protective equipment, what hazards are

involved, and what duties are to be performed. All other appropriate safety and health precautions shall be used to assure the safety and health of these personnel. This training meets the requirements of 29 CFR 1910.120(q)(4).

12.2.2.3.2 Specialist Personnel. Personnel who, in the course of their regular job duties, work with and are trained in the hazards of specific hazardous (radiological and nonradiological) substances and who will be called upon to provide technical advise or assistance to the IC shall receive training or demonstrate competency in the area of their specialization annually. This training meets the requirements of 29 CFR 1910.120(q)(5).

12.3 TRAINING PROGRAM EVALUATION

Emergency preparedness training programs shall include evaluation methods to ensure that all emergency response personnel are trained in the program elements pertinent to their position and are able to respond effectively in an emergency.

The effectiveness of the emergency preparedness training program shall be evaluated during the conduct of drills and exercises. Performance shall be documented as part of the drill and exercise critiques and will be used for program improvements.

The programs also shall contain self-assessment activities that analyze overall training program effectiveness. Results of self-assessment activities will be utilized to upgrade and improve the emergency preparedness training program.

12.4 EMERGENCY PREPAREDNESS COURSES

Emergency preparedness training courses conducted at the Hanford Site are identified in Table 12-1.

12.5 RECORD KEEPING

The emergency preparedness training programs for the Hanford Site will include a consistent, auditable method for maintaining training records. The system will include a means for tracking attendance and for reminding employees when refresher training is needed.

The system will be incorporated into site contractor/site central training record organizations when possible.

Table 12-1. Emergency Preparedness Training Courses.

TRAINING COURSE	FREQUENCY	COURSE SUMMARY
General Employee Training	Annually	Training provides basic emergency preparedness response procedures to DOE and site contractor employees.
Hanford Emergency Operations Center Training	Before assignment; annually thereafter[1]	Training provides an overview of the Hanford Emergency Response Organization as well as specific roles and responsibilities for the various positions which make up the Hanford EOC teams.
Facility/Building Emergency Response Organization Training	Before assignment; annually thereafter	Training addresses emergency procedures, responsibilities, and command and control for members of the Facility/Building Emergency Response Organization (i.e., BED/BW and support staff).
Incident Command Organization Training	Before assignment; annually thereafter	Training addresses the roles, responsibilities, and authorities for the respective position within the Incident Command Organization.
Visitor, Vendor, Subcontractor, Consultant, and Regulatory Agency Personnel Training	Before badge issuance	Training provides safety, security, and emergency preparedness information to visitors, vendors, subcontractors, consultants, and regulatory agency personnel.

[1]Applicable only to Hanford Site personnel with designated positions in the Hanford EOC. Offsite personnel with designated positions in the Hanford EOC receive initial orientation training as requested.

12.6 VISITORS/VENDORS/SUBCONTRACTORS/CONSULTANTS/REGULATORY AGENCY PERSONNEL

Visitors, vendors, subcontractors, consultants, and regulatory agency personnel must receive an orientation regarding safety, security, and emergency preparedness requirements while on the Hanford Site each time a security badge is issued. A security badge will not be issued unless compliance with this requirement is met.

Visitors to the site will also view a video or receive a brochure containing safety, security, and emergency preparedness information when the security badge is issued.

12.7 OFFSITE TRAINING SUPPORT

No offsite training support has been identified to substitute existing emergency preparedness training courses. However, emergency response personnel shall participate in training opportunities offered by other field elements or offsite agencies that may benefit the emergency response organization.

12.8 OFFSITE PERSONNEL TRAINING

Emergency-related information, transportation information, and training on site-specific conditions and hazards shall be made available to offsite personnel who may be required to participate in response to an emergency at the Hanford Site. The training will be provided in support of and in conjunction with the counties, tribes, and states at their request. Information on hazards and emergency response procedures also shall be provided to the media and the public as appropriate.

Offsite agencies that participate in the Hanford EOC are given the opportunity to participate in training and drills related to their respective functions.

Area hospitals and local ambulance providers receive training on the handling and care of radiologically contaminated patients from Energy Northwest and county emergency management organizations.

12.9 INSTRUCTOR TRAINING AND QUALIFICATION

The emergency preparedness training programs shall identify and document course instructor qualifications. Instructor qualification criteria shall be in accordance with contractor procedures where applicable. Emergency preparedness program managers have the responsibility for qualification of instructors for each course offered. The qualification process shall identify both experiential and/or academic requirements for instructors.

12.10 DRILLS

Drills shall be conducted as necessary to ensure that Hanford Site personnel are knowledgeable of response to alarms (e.g., fire, evacuation, take cover, etc.).

Additionally, drills shall provide supervised, "hands-on" training and application sessions for members of the Hanford Site ERO. These sessions provide an opportunity to demonstrate and maintain individual and organizational proficiency. Drills should be of sufficient scope and frequency to ensure an adequate and trained emergency response organization. As such, each member of the Hanford Site ERO shall participate in a drill or exercise at least annually. In order to ensure response proficiency is maintained, drills will be assessed and/or graded to identify and document training needs and areas of less than adequate performance.

12.10.1 Drill Definitions

There are four types of drills conducted at the Hanford Site – operational, emergency preparedness, functional, and protective action. Each drill is defined in the following subsections.

12.10.1.1 Operational Drill. Operational drills focus on an event that can be mitigated through the use of plant response procedures and allows for the demonstration of nonemergency notifications. Operational drills may also include the use of the appropriate *Emergency Plan Implementing Procedures* (DOE-0223) or other contractor-specific emergency management documentation and be performed using a tabletop format. The drills should be performed at the direction of the facility/building manager and documented to include concerns or demonstrated lack of knowledge regarding action(s) taken. Examples of an operational drill include alarm response, contamination spread, and other applicable operating functions. Operational drills may be evaluated during operational readiness reviews, readiness assessments, conduct of operation assessments, and assessments performed for compliance with DOE 5480.20A, *Personnel Selection, Qualification, and Training Requirements for DOE Nuclear Facilities*.

12.10.1.2 Emergency Preparedness Drill. Emergency preparedness drills involve designated facility emergency response personnel and the Hanford Incident Command System. Such drills could include tabletop drills, walk-through training drills (controller interaction with players as coaches or instructors), and evaluated drills (no controller interaction with players for coaching or instruction). The type of drill to be conducted shall be clearly communicated to all participants, observers, and evaluators.

Emergency preparedness drills require the use of the appropriate *Emergency Plan Implementing Procedures* (DOE-0223) or other contractor-specific emergency management documentation and, at a minimum, should demonstrate:

- implementation and coordination of facility and/or area (i.e., 100 Area, 200 Area, 300 Area, etc.) protective actions such as take cover or evacuation;
- event recognition, and classification (hazardous facilities only);

- event mitigation;
- emergency and environmental notifications and communications; and
- interface with other Incident Command Organization functions and other affected facilities.

12.10.1.3 Functional Drill. Functional drills involve a specific function of the emergency response organization not normally associated with a specific facility. Examples of a functional drill include field team dispatch and control, Columbia River alerting, Hanford EOC, ONC staff, POC staff, Emergency Duty Officers, and Hanford Fire Department responders.

12.10.1.4 Protective Action Drill. Protective action drills focus employee safety to ensure that facility personnel are knowledgeable of response to alarms, including take cover or an evacuation to a staging area. Examples include such drills include plume release, fire, and bomb threat. Protective action drills may be combined with operational or emergency preparedness drills, or with area-wide take cover or evacuation drills for facilities located on the Hanford Site.

12.10.2 Drill Development and Conduct

Minimum drill requirements are delineated in the following subsections. Additional criteria may be contained in contractor-specific documentation.

12.10.2.1 Administrative Facilities. Protective action drills shall be conducted at administrative facilities as applicable. At a minimum, contractors with such facilities shall conduct a fire drill, where required by NFPA 101® Life Safety Code® requirements (latest edition), each calendar year to ensure that personnel are able to safely evacuate their work area. In addition, administrative facility personnel located on the Hanford Site and within a plume exposure EPZ shall participate in a take cover or evacuation drill each calendar year to ensure that facility personnel are knowledgeable of response to alarms. Each contractor is responsible for ensuring that drills are conducted and documented for their respective facilities as applicable.

12.10.2.2 Low-hazards Facilities. Operational, emergency preparedness and protective action drills shall be conducted at low-hazards facilities as applicable. Contractors with such facilities shall ensure that personnel are knowledgeable of response to facility-specific alarms and establish a drill program to ensure adequate training and proficiency for all emergency response personnel. Each contractor shall identify drill coordinators who have successfully completed drill coordinator training or demonstrated equivalent training or experience.

Drills should be designed to demonstrate proficiency for as many of the following items, as appropriate, for the facility being drilled:

- initial event discovery and notification;
- response to fire and medical emergencies;

- response to spills and releases of hazardous materials including the detection and monitoring of such releases;
- protective actions (including take cover or evacuation);
- activation of the initial ICP;
- personnel accountability;
- event assessment to determine RCRA contingency plan implementation and notification; and
- personnel decontamination.

NOTE: Low-hazards facilities operating under the governing requirements of 29 CFR 1910.38, which means that facilities where personnel evacuate from the danger area when an emergency occurs and are not permitted to assist in handling the emergency, need only meet the annual protective action drill requirement.

12.10.2.3 Hazardous Facilities. Operational, emergency preparedness and protective action drills shall be conducted at hazardous facilities as applicable. Contractors with such facilities shall ensure that personnel are knowledgeable of response to facility-specific alarms and establish a drill program to ensure adequate training and proficiency for all emergency response personnel. Each contractor shall identify drill coordinators who have successfully completed drill coordinator training or demonstrated equivalent training or experience.

In addition, drills should be designed to demonstrate proficiency for as many of the following items, as appropriate, for the facility being drilled:

- initial event discovery and notification;
- response to fire and medical emergencies;
- response to spills and releases of hazardous materials including the detection and monitoring of such releases;
- protective actions (including take cover or evacuation);
- activation of the initial ICP;
- event classification and notification;
- event assessment to determine RCRA contingency plan implementation and notification;
- personnel accountability;

- personnel decontamination; and
- event termination including reentry and recovery.

The designated emergency preparedness coordinator is responsible for the design and execution of the facility drill program. The emergency preparedness coordinator shall approve the grade assigned to the drill, sign the drill report and forward to the facility/building manager. The emergency preparedness coordinator is responsible for entering deficiencies into the appropriate commitment tracking system. The emergency preparedness coordinator will insure the adequacy of the drill package, including the scenario and will select the drill control organization. The emergency preparedness coordinator should serve as the lead controller for drills whenever possible.

Drills shall be conducted by a qualified, trained, and experienced control organization. Drill controllers shall be qualified to control areas of performance assigned and for emergency preparedness and functional drills shall have attended drill controller/evaluator training. Site contractors, however, may authorize equivalent training.

A graded approach to the number, type, and extent of facility and functional drills shall be based on the hazards present in the facility or those to which the functional organization would be expected to respond. Each contractor required to conduct drills shall develop an annual drill schedule.

Drill packages contain, as a minimum,:

- objectives, scope, and limitations;
- scenario;
- technical data (e.g., realistic plant conditions, proper source terms, etc.);
- evaluation criteria; and
- a narrative summary of the conduct of the drill.

Operational and/or emergency preparedness drills shall be conducted with a frequency sufficient to provide proficiency and complete confidence in response capability. Personnel assigned emergency duties should participate in drills covering emergency events or hazardous conditions in their respective facility (e.g., fire, injury, spill, radiological release, loss of power, loss of ventilation, etc.) Where proficiency is not achieved, more than one drill per event or hazardous condition should be considered.

NOTE: For hazardous facilities having a criticality event potential, evacuation drills shall be conducted at least annually to maintain familiarity with emergency procedures.

14.0 PROGRAM ADMINISTRATION

The basic purpose of program administration is to establish and maintain effective organizational management and control of the emergency management program. Even though the program is now available to ORP and its contractors, RL retains the primary responsibility to oversee, coordinate, and assess the emergency management programs of the Hanford Site contractors. RL will ensure the preparation and maintenance of plans and procedures necessary for RL/ORP to carry out its responsibilities during an emergency and will schedule through ORP any activities (i.e., drills, exercises, assessments) of ORP contractors.

14.1 EMERGENCY MANAGEMENT PROGRAM ADMINISTRATOR

The RL/ORP Managers have the responsibility for administering the overall emergency management program for the Hanford Site. The RL/ORP Managers have delegated the authority to develop, implement, and maintain the emergency management program to the RL SES director; however, key program decisions and/or policy changes will be coordinated with ORP prior to implementation. The RL Emergency Preparedness staff of RL SES carries out these responsibilities.

Each site contractor shall designate an individual to administer the site-level emergency management program and/or to administer/assess the facility-level emergency management program. This individual shall also assist, as necessary, in the development and maintenance of this plan and applicable implementing procedures; development of the Hanford Emergency Readiness Assurance Plan (ERAP) and annual updates; development and conduct of training and exercise programs; coordination of assessment activities; development of related documentation; and coordination of emergency resources.

Each building organization shall designate an individual (e.g., BED, BW, emergency preparedness coordinator) responsible to administer the emergency management program at the facility level.

14.1.1 Emergency Management Functions at the U.S. Department of Energy, Richland Operations Office

The RL/ORP Emergency Preparedness staff functions, as appropriate to the responsibilities described above, related to overseeing site contractor emergency preparedness programs include:

- ensuring that hazards assessments and hazards surveys for emergency planning are adequately performed and documented;

- reviewing and recommending approval of the annual Hanford ERAP developed by site contractors and RL/ORP, and submitting it to the CSO and the DOE-HQ Director of Emergency Management for inclusion in the annual report;

- assessing facility emergency preparedness programs to verify compliance with appropriate Federal and state directives and policy, and providing the results/conclusions to the CSO and the DOE-HQ Director of Emergency Management;

- submitting DOE Order requirement exemption requests, as necessary, for approval by the Under Secretary, which document the basis for each exemption, and establishes and justifies alternatives equivalent to or exceeding the Order;

- reviewing and approving the Hanford Site emergency exercise program, and reviewing exercise evaluation and quarterly corrective action status reports; and

- reviewing written reports of evaluations of declared events.

RL Emergency Preparedness staff functions to ensure that RL/ORP can carry out its responsibilities in an emergency include:

- ensuring that annual budgets and mission and function statements reflect implementation policies and decisions;

- assigning a senior emergency preparedness representative to the Emergency Management Advisory Committee;

- revising and updating this plan and the *Emergency Plan Implementing Procedures* (DOE-0223) in accordance with DOE O 151.1 and other appropriate Federal and state regulations, and ensuring integration within the overall emergency management program;

- interfacing with Federal, tribal, state, and local emergency management organizations;

- maintaining and negotiating agreements with state and county response agencies, Federal assistance agencies, and maintaining agreements with medical and fire support agencies;

- providing training to state and local emergency response personnel, as requested;

- recruiting and training staff for the DOE Hanford EOC;

- maintaining the DOE Hanford EOC facility and equipment; and

- maintaining the DOE Region 8 RAP.

Additional organizational responsibility, authority, and functions within RL for implementing requirements from DOE O 151.1 and other DOE Directives and Federal and state laws are delineated in the *Richland Operations Office Functions, Responsibilities and Authorities Manual*.

14.2 EMERGENCY READINESS ASSURANCE PROGRAM

14.2.1 Hanford Emergency Readiness Assurance Plan

Based upon the organization and management of the Hanford Site emergency management program, individual facility ERAPS are not provided. Rather, RL/ORP and site contractor Emergency Preparedness personnel participate in the preparation of a consolidated Hanford ERAP.

The Hanford ERAP shall be a planning tool to identify and develop needed resources and improvements. The Hanford ERAP shall highlight any significant changes in emergency management programs (i.e., planning bases, organizations, exemptions) from previous ERAPs, as well as comparing actual achievements to goals, milestones, and objectives. If applicable, the Hanford ERAP shall be reviewed for classified or controlled information prior to submittal.

Site contractor Emergency Preparedness personnel shall submit initial or updated emergency planning and preparedness activities information, as indicated above, to RL SES by September 30 each year for review and inclusion in the Hanford ERAP. The information shall cover a planning cycle of five years beginning the next October 1.

The RL Emergency Preparedness staff shall review and finalize the Hanford ERAP for approval by the RL SES director. The RL staff will obtain concurrence from ORP prior to ERAP approval by the RL SES director. The consolidated Hanford ERAP shall be submitted to the CSO and DOE-HQ Director of Emergency Management by November 30 each year.

14.2.2 Emergency Readiness Assurance Assessments/Appraisals

RL/ORP shall periodically review the ability of contractor-operated facilities to meet requirements of the DOE Emergency Management System. Appraisals and assessments shall be based on specific standards and criteria published by the DOE-HQ Director of Emergency Management. Appraisal findings shall be acknowledged by the appraised activity within 90 days of receipt of findings with a corresponding plan for correction. The RL/ORP appraising organization shall determine closure of open or unresolved appraisal findings.

Additionally, RL/ORP shall assess the emergency management program of each site contractor under its supervision. Each site contractor shall be assessed at least once every 3 years. RL/ORP shall notify the CSO of its assessment schedule.

Contractor-operated facilities shall conduct an annual internal readiness assurance assessment of their emergency management programs. Corrective actions shall be tracked and status reports provided to RL/ORP. In addition, site contractors shall assist external organizations (i.e., RL/ORP, DOE-HQ) in scheduling and conducting evaluations, appraisals, and assessments of their respective facilities; respond to external evaluation, appraisal, and assessment findings within 90 days of receipt of findings; and resolve all evaluation, appraisal, and assessment findings with the responsible organization or request approval for an exemption to the requirements.

RL/ORP and contractor assessment results shall be provided to the CSO and DOE-HQ Director of Emergency Management through documentation in the Hanford ERAP.

14.2.3 Lessons Learned

RL/ORP and each site contractor emergency management program shall include a system to track and identify correction of findings or lessons learned from training, drills, exercises, and actual responses.

14.2.4 Emergency Operations Metrics Data

RL/ORP and site contractors are required to report Emergency Operations metrics data quarterly. The metrics data is based on performance measures developed by the DOE-HQ Office of Security and Emergency Operations.

Site contractors shall submit applicable metrics data to RL SES within five working days after the last day of the previous fiscal year quarter for review and inclusion in the consolidated Hanford metrics data spreadsheet. Data may be projected as necessary in order to meet the submittal date.

RL SES shall review, collate, and finalize the metrics data and electronically disseminate the consolidated Hanford metrics data spreadsheet to the CSO and DOE-HQ Office of Emergency Operations within 15 days after the last day of the previous fiscal year quarter.

14.3 DOCUMENT CONTROL

This plan and RL/ORP and site contractor implementing procedures shall be controlled distribution documents. RL/ORP and site contractors shall use a document control system to ensure that controlled copies are up to date and available at locations where they may be needed in an emergency. RL/ORP and site contractors shall determine the internal and external controlled copy distribution of the emergency plan and respective implementing procedures.

14.3.1 Review and Update of the Hanford Emergency Management Plan and U.S. Department of Energy Richland Operations Office/Office of River Protection and Site Contractor Implementing Procedures

This plan and the *Emergency Plan Implementing Procedures* (DOE-0223) will be reviewed annually by the RL/ORP and the appropriate response organizations and agencies. RL SES is responsible for the coordination of this review and any resulting actions. RL SES will identify specific changes deemed necessary and will ensure implementation of the revisions.

Revising and updating of this plan and/or the *Emergency Plan Implementing Procedures* (DOE-0223) may be initiated at any time deemed necessary by RL SES. Changes and/or amendments shall be incorporated by RL SES, concurred upon by ORP and site contractors, and approved by the RL/ORP Manager or his designee.

A controlled copy of the approved plan and the *Emergency Plan Implementing Procedures* (DOE-0223) shall be submitted to the DOE-HQ Director of Emergency Management, the CSO, and to the DOE-HQ EOC.

Site contractor emergency plans (e.g., building emergency plans) and implementing procedures shall be reviewed at least annually.

14.3.1.1 Review and Update Based on WAC 173-303

Portions of this plan, together with Hanford Site location/activity-specific documentation established to meet contingency plan requirements, must be reviewed and immediately amended, if necessary, whenever:

- applicable regulations or the Hanford Facility RCRA Permit are revised;
- this plan or the location/activity-specific building emergency plan/procedure fails in an emergency;
- the Hanford Site facilities/activities change (e.g., design, operation, maintenance, etc.) in a way that materially increases the potential for fires, explosions, or releases of dangerous waste or dangerous waste constituents, or in a way that changes the response necessary in an emergency; or
- the list of emergency equipment changes.

14.3.2 Review of Agreements

Agreements with local, state, and Federal officials and agencies (as contained in Appendix B) are maintained by RL SES and are reviewed and/or updated at least annually. Updates may be initiated either by RL or by the agreement official or agency. Updates are documented by amendment marks on individual pages of the agreement unless comprehensive amendments are required. Agreements shall be reviewed annually and revised as necessary. RL SES shall maintain documentation of the annual review.

14.3.3 Classified Information

RL/ORP and site contractors shall ensure that emergency preparedness documents, such as plans, procedures, scenarios, and assessments, are reviewed, as necessary, for classified and Unclassified Controlled Nuclear Information (UCNI) by an authorized derivative classifier or UCNI reviewing official.

14.3.4 Supporting Documents

RL SES shall maintain copies of documents and records that support the emergency management program (i.e., technical data, hazards assessments, ERAPs, and plans and procedures). Records of training, drills, and exercises shall be maintained to document status of the program and provide direction for improvements.

Hanford Site contractors shall maintain records that will provide documentation of the facility emergency preparedness program and to support the preparation of the ERAP, work plans, etc.

14.3.5 Vital Records

A program shall be established to ensure that vital records, regardless of media, essential to continued functioning or reconstruction of an organization during and after an emergency, are maintained and available, per 36 CFR 1236.

The vital records program ensures the protection and availability of information critical to effective emergency response management, and the protection of the legal rights and interests of citizens, the Federal government and its employees, and DOE contractors and site personnel. The RL Office of Site Services is responsible to ensure that a vital records program for the Hanford Site is in place.

RL/ORP and site contractors shall annually review their respective records indicated on the vital records submittal listing and determine necessary additions to or deletions from the list. RL SES should ensure that the retrieval process for vital records is evaluated annually as part of a Hanford sitewide emergency exercise.

APPENDIX C

HANFORD FIRE DEPARTMENT EQUIPMENT LIST

EQUIPMENT	DESCRIPTION	*NORMALLY LOCATED
Engines 4 ladders 4 pumpers	Examples of equipment contained on engines: • 1,500-2,000 gal/min (5,678.1-7,570.8 L/min) pump; • 300-500 gal (1,135.6-1,892.7 L) portable tank; • telescoping nozzle; and • Jaws of Life.	1 at each station
Tankers 6 each	Examples of equipment contained on tankers and pumpers: • 500 gal/min (1,892.7 L/min) pump; • 1,500 gal (5,678.1 L) tank; • 6x6 with 2,000 gal (7,570.8 L) porti-tank; and • hose, nozzles, fittings, and tools.	1 at Station 1 2 at Station 2 2 at Station 3 1 at Station 4
Water Tenders 1 each	Examples of equipment contained on water tenders: • 450 gal/min (1,703.4 L/min) pump; • 4,500 gal (17,034.3 L) tank; and • hose, nozzles, fittings, and tools.	Station 1
Grass Fire Units 4 each	Examples of equipment contained on grass fire units: • 100 gal/min (378.5 L/min) pump; • 250 gal (946.3 L) tank; • 4-wheel drive; and • hose, nozzles, fittings, and tools.	1 at each station
Ambulances 5 each	Examples of equipment contained on ambulances: • life support systems; and • medical and emergency response supplies.	1 at Station 1 2 at Station 2 1 at Station 3 1 at Station 4
Command Vehicles 3 each	Contains communications equipment and protective equipment for commander.	Station 2

Hanford Fire Department Equipment List

EQUIPMENT	DESCRIPTION	*NORMALLY LOCATED
Attack Vehicles 1 each	Examples of equipment contained on attack vehicles: • 450 lb (204.1 kg) of purple-K; • 300 gal (1,1335.6 L) aqueous film-forming foam concentrate; • 300 gal (1,135.6 L) of aqueous film-forming foam pre-mix solution; and • hose, nozzles, fittings, and tools.	Station 2
Hazardous Materials Vehicle 2 each	Examples of equipment contained on hazardous materials vehicle: • protective clothing for Hazardous Materials Response Team; • breathing apparatus for Hazardous Materials Response Team; • diking, plugging, and damming equipment; • detection instruments for Hazardous Materials Response Team; • tools for plugging and repairing leaking containers; • overpack containers for leaking containers; • command module with material safety data sheets, software, and portable meteorological station; and • tools and communications devices necessary to provide communications during emergency response activities.	1 at Station 2 1 at Station 3
Metal Fire Response Vehicle 1 each	Examples of equipment contained on metal fire response vehicle: • equipment for response to special metals fire; • 500 lb (226.8 kg) of extinguishing powder; and • 1,000 lb (453.6 kg) of carbon microspheroids.	Station 4
Mobile Air Vehicle 1 each	Examples of equipment contained on mobile air vehicle: • mobile air compressor, recharges self-contained breathing apparatus cylinders; and • tools and fittings for operation of vehicle and spare cylinders.	Station 4

*The Hanford Fire Department Chief has the authority to: 1) direct the placement of equipment as needed to control emergency events; and 2) take proactive action and assign different vehicle locations based on conditions such as fuel moisture content, area fire history, work in progress, or other conditions that could arise.